# Title V Statement of Basis

**Company:** Public Service Company of New Mexico (PNM)
**Facility:** Rio Bravo Generating Station
**TV Permit #:** 2093-RN3
**AIRS#:** NM/001/00368
**Permit Writer:** Michael McKinstry
**Permit Action:** Title V Operating Permit Renewal
**Facility ID:** FA0010151
**Record ID:** PR0013806

| Permit Review | | |
|---|---|---|
| | **Date to Enforcement: N/A** | **Inspector Reviewing: N/A** |
| | **Date Enf. Review Completed: N/A** | **Date of Reply: N/A** |
| | **Date to Applicant: N/A** | **Date of Reply: N/A** |
| | **Date to EPA: N/A** | **Date of Comments from EPA: N/A** |
| | **Date to Supervisor: N/A** | |



# 1.0 GENERAL

## *1.1 PURPOSE OF THIS STATEMENT OF BASIS*

This document summarizes the legal and factual basis for the permit conditions in the Rio Bravo Generating Station air operating permit to be issued under the authority of the Albuquerque Environmental Health Department (Department) and the Albuquerque/Bernalillo County Air Quality Control Board (A/BCAQCB); pursuant to the Federal Clean Air Act (CAA, also known herein as the Federal Act); the New Mexico Air Quality Control Act, NMSA 1978, as amended 74-2-4, 74-2-5.C; the Joint Air Quality control Board Ordinance, Revised Ordinances of Albuquerque 1994, 9-5-1-4; the Joint air quality Control Board Ordinance, Bernalillo County Ordinance 94-5; A/BCAQCB Regulation Title 20, New Mexico Administrative Code (NMAC), Chapter 11 (20.11 NMAC), chapter 11, Part 41 (20.11.41 NMAC), Authority-To-Construct; Part 42 (20.11.42 NMAC), Operating Permits. Unlike the permit, this document is not legally enforceable. This document includes references to the applicable statutory or regulatory provisions that relate to PNM Rio Bravo Generating Station's emissions to the atmosphere. In addition, this Statement of Basis provides a description of Rio Bravo Generating Station's activities.

## *1.2 DESCRIPTION OF THIS PERMIT ACTION*

The Title V Operating Permit Renewal application and Acid Rain Renewal application were received on May 9, 2025. The following are to be incorporated as changes in Title V Operating Permit #2093-RN3:

- After reviewing the application and the history of the Title V Operating permit #2093-RN3, it was discovered that the Affirmative defense language was not removed as thought earlier. It will now be removed.
- Process Equipment #2, Fire Pump Engine, Cummins Model #6BTA5.9-F2, Serial #45878044 will be

removed from previous Title V Operating Permit #2093-RN1-M1.

## *1.3 FACILITY BACKGROUND AND HISTORY*

The Acid Rain Permit Renewal application was received on March 14, 2023. The Operating Permit, 2093-RN1-M1-3AR, was modified and renewed on May 10, 2021, and the Acid Rain permit was not renewed at that time. The preference is that the Acid Rain Permit and Operating Permit for a Facility be issued concurrently which was not done in this case. After discussion with Elizabeth Layton, EPA Region 6, during the July 26, 2023, monthly conference call, she stated that since there are no changes to the Acid Rain permit renewal application, it may be treated as an administrative permit amendment to the Title V Operating Permit pursuant to 20.11.62.18.D.(1) NMAC and 20.11.42.13.E.(1)(a)(v) NMAC. Therefore, the date of expiration of this Acid Rain Permit AR2093-RN2 shall be concurrent with the Operating Permit 2093-RN1-M1 issued on May 10, 2021 and expiring on May 10, 2026 [subsequent administrative revisions (ARs) have been issued after 2093-RN1-M1 was issued, but the expiration date remains the same]. The current Operating Permit is 2093-RN1-M1-3AR; however, since the Operating Permit was issued on May 10, 2021 as the second renewal as well as a modification, the Title V Operating Permit with the Administrative Amendment (AR) to renew the Acid Rain Permit (AR2093-RN2) will now be known as **2093-RN2-1AR.**

Changes made in PSD/CP Permit #0694-M3 and incorporated into Draft Operating Permit #2093-RN1 include:

- Operation of an emergency backup generator and adds permit language for applicable regulations including 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

During PNM's review of the draft permit PNM requested in their comments to change the frequency of the visible emissions monitoring requirements for fire pump, Emission Unit #2, and the emergency engine, Emission Unit #3. PNM stated in their comments:

- annual visible emissions monitoring is consistent with the New Mexico Environment Department requirements for emergency generators and fire pumps at PNM's permitted plants outside of Bernalillo County
- quarterly visible emissions monitoring seems excessive for a fire pump, Emission Unit #2, that rarely operates
- plant personnel often start the fire pump, Emission Unit #2, just to complete a visible emissions test in order to avoid a possible non-compliance situation if the fire pump were to operate at the year-end of a quarter
- visible emissions from the fire pump, Emission Unit #2, have been very low. Over the past three years, visible emissions observations typically are 0% with a few observations averaging 0.5% or 1.05 opacity over a 6-minute observation period.

PNM submitted an application to modify and renew Title V Operating Permit #2093-RV1 on June 17, 2015. PNM requested to incorporate changes made in PSD/CP Permit #0694-M2 (Issued 08/31/2015) into the Title V permit; a summary of those changes is included below. PNM also requested to renew the Title V permit and included requests to correct or revise conditions; a summary of those requests is also included below.

Changes made in PSD/CP Permit #0694-M2 and incorporated into Operating Permit #2093-RN1 include:

- Replaced an initial performance test requirement for PM10 with an Alternative Compliance Demonstration Method including an emissions calculation methodology using monitored parameters, work practices, and visible emissions monitoring using EPA Method 9.
- Revised permit conditions that required monitoring $SO_2$ emissions with a CEMS to instead allow monitoring fuel flow and fuel sulfur content.

- Revised TSP, PM10, and PM2.5 emission limits based on vendor stack test data. Comparing Draft Operating Permit #2093-RN1 to the current Operating Permit #2093-RV1, emission limits increased for natural gas operation, but decreased for #2 fuel oil operation; resulting in a very small net increase for TSP/PM10 annual emissions (+0.4 tpy), and a small net decrease for PM2.5 annual emissions (-1.7 tpy).
- Revised emission limits for $NO_X$, CO, and $SO_2$ because emissions information for the wrong turbine were inadvertently used in previous permits. Comparing Draft Operating Permit #2093-RN1 to the current Operating Permit #2093-RV1, the $NO_X$ emission limit for natural gas operation decreased, but the emission limit for #2 fuel oil operation increased; resulting in a net decrease for $NO_X$ annual emissions (-2.3 tpy). Emission limits for CO and $SO_2$ for both natural gas and #2 fuel oil operation decreased; resulting in a net decrease for CO annual emissions (-202.7 tpy) and for $SO_2$ annual emissions (-3.8 tpy).
- Added a fire pump engine that was previously listed as an insignificant activity to the Process Equipment table (Emission Unit #2), and added conditions to the permit to address applicable 40 CFR 63 Subpart ZZZZ requirements.
- Clarified that annual operating limits for Emission Unit #1 are to be calculated as a12-month rolling average.
- Added Table showing 40 CFR 60 Subpart GG emission limits.
- Clarified that EPA Method 9 should be used for opacity monitoring.

Requests to correct or revise conditions in the Title V Operating Permit, not addressed above, include:

- Removing an erroneous reference to an unrelated Permit #0752-M2-RV3.
- Consolidating redundant permit conditions.
- Correcting erroneous regulatory citations.
- Changing the six month and annual reporting schedules to fixed-date schedules from the current schedule based on permit issuance in order to align reporting schedules with other PNM facilities.

***Introduction of PM10 Performance Test***

This facility was originally issued a single combined Acid Rain, NSR, Title V, and PSD permit (#0694, Issued 3/5/1998). EPA Region 6 directed the City of Albuquerque Air Quality Program (AQP) to split the combined permit into three separate permits during the second Title V Renewal in 2011. NSR/PSD Permit #0694-M1-RV1 was issued on June 22, 2011 to Delta Power Company (Delta), the previous owner of this facility. NSR/PSD Permit #0694-M1-RV1 introduced $PM_{2.5}$ emission limits and introduced a new requirement to conduct a PM10 performance test using EPA Method 5 and 202.

***EPA Method 5 Determined Technically Infeasible***

Delta hired TRC Consulting to initiate stack flow rate measurements as a precursor to particulate testing and concluded that Method 5 could not be performed on the stack because of the high temperature and violent stack conditions. EPA Region 6 staff agreed that the simple-cycle combustion turbine stack could not be tested by EPA Reference Method 5 and 202 as it was "technically infeasible" during a meeting between Delta, TRC, EPA Region 6, and AQP (by phone) held on March 19, 2013 in Dallas, TX.

***Delta Permitting Activities***

Delta submitted an application to modify NSR/PSD permit #0694-M1-RV1 on June 17, 2013 to remove the PM stack testing requirement and to revise emission limits for TSP, $PM_{10}$, and $PM_{2.5}$. Permit Application #0694-M2 was ruled incomplete on June 20, 2013 because it did not include air dispersion modeling. A revised application was received on July 15, 2013 and was ruled incomplete on August 12, 2013 because it did not include a PSD applicability determination. A revised application was received on August 13, 2013 but was ruled incomplete on August 27, 2013 because AQP staff thought the action may have constituted a "Major Modification," as defined in 20.11.61.7.II NMAC – Prevention of Significant Deterioration, based on

information in the application. In a letter dated August 28, 2013, the AQP requested a complete PSD applicability determination per 20.11.61.11.D NMAC, including a Best Available Control Technology (BACT) review, an Ambient Impact Analysis, Additional Impact Analyses, and Ambient Air Quality modeling as outlined in 20.11.61.14 NMAC through 20.11.61.17 NMAC. A revised application was received on October 21, 2013. The revised application included the information requested in the August 28, 2013 letter and the application was ruled complete on November 21, 2013.

The public comment period ran from November 25, 2013 to January 10, 2014. No comments were received.

A 90-day permit decision extension was granted by the Environmental Health Department (EHD) Director on February 19, 2014 because EPA Region 6 thought the action may trigger PSD requirements. The formal action deadline was moved from February 19, 2014 to May 20, 2014.

Delta signed a waiver agreement on April 29, 2014 which extended the formal action deadline to August 18, 2014 because EPA Region 6 and the AQP were still in disagreement whether the application should have triggered PSD review.

***PNM Purchase of Delta Person Generating Station***

Public Service Company of New Mexico (PNM) had intended to purchase the Delta Person Generating Station (DPGS) after Permit Application #0694-M2 was approved. However, PNM decided to move forward with their purchase of DPGS before the modification was approved and requested information on how to request a change of ownership on May 15, 2015. PNM purchased DPGS on July 17, 2014. NSR/PSD Permit #0694-M1-RV2 and Operating Permit #2093-RV1 were issued on September 19, 2014 as administrative actions to transfer ownership of the existing DPGS permits.

***Applications Acquired by PNM***

PNM acquired the pending Permit Application #0694-M2, with their purchase of DPGS. PNM and the Environmental Health Department agreed to a one-year deadline for PNM to develop an alternative compliance demonstration method (ACDM) to replace the PM10 stack testing requirement and to modify their permits through a Stipulated Agreement and Stipulated Final Order, SFO #14-11. The formal action deadline for Permit Application #0694-M2 then became July 17, 2015. PNM and the EHD later agreed to extend of the formal action deadline to August 31, 2015 through an amended Stipulated Agreement and Stipulated Final Order, SFO #15-007. The purpose of SFO #15-007 was to allow additional time for PNM to submit comments on the draft permit and for the EHD to review those comments. NSR/PSD Permit #0694-M2 was issued on August 31, 2015.

PNM also acquired a pending Title V Application #2093-M1, but withdrew the application on June 18, 2015. PNM replaced the withdrawn application with Title V Application #2093-RN1 on June 17, 2015.

# 2.0 SOURCE DESCRIPTION

Public Service Company of New Mexico (PNM) operates the Rio Bravo Generating Station (RBGS) located at 725 Electric Avenue, Albuquerque, New Mexico. The facility generates electricity (SIC Code 4911, NAICS 221112) with a nominal 150 MW, GE7FA simple-cycle combustion turbine powered primarily with pipeline quality natural gas and with low-sulfur #2 fuel oil as the secondary fuel. Emissions controls on the turbine include dry low-NOx burners for natural gas and water injection for #2 fuel oil combustion. Annual hours of operation limit on each fuel type are 7,320 hours per year for natural gas and 1,440 hours per year for #2 fuel oil. Auxiliary equipment includes a diesel powered fire pump engine, a diesel powered emergency generator,

one aboveground storage tank for fuel oil, water storage tanks, electrically driven fuel gas compressors, and a control house/maintenance building.

# 3.0 DESCRIPTION OF FACILITY PROCESSES

The RBGS facility consists of Emission Unit #1 which is a nominal 150 MW General Electric Model PG 7421 (FA) simple cycle combustion turbine powered with both pipeline quality natural gas and fuel oil. The primary fuel is pipeline quality natural gas and the secondary fuel is fuel oil. The turbine began commercial operation in July 2000.

Emission Unit #1 was originally classified under the federal Acid Rain Program as a peak load turbine; however, due to power deficiencies in California, this unit exceeded one-year operating limitations as a peak load unit according to Acid Rain Regulation, 40 CFR 75.12(d)(2), in its first year of commercial operation. Emission Unit 1 has been allowed to operate 8,760 hours per year in both Permit #0694 and Permit #0694-M1 with **no** designation as either a peaking unit or a base load unit.

Emission Unit #1 was reclassified under the federal Acid Rain Program as a base load unit, and Continuous Emissions Monitors (CEMS) were installed by January 1, 2002.

The RBGS also includes Emission Unit #2, which is a 110 hp diesel-fired emergency fire pump engine. The engine was installed in 2000 and is subject to the RICE NESHAP. The fire pump engine was not required to obtain a construction permit prior to January 1, 2014 when the revised 20.11.41 NMAC - Construction Permits was became effective. In accordance with 20.11.41.2.C(1) NMAC, the fire pump is now required to obtain a permit because it is subject to the RICE NESHAP (40 CFR Part 63, Subpart ZZZZ). The fire pump engine was previously considered an insignificant source under Title V.

The RBGS also includes Emission Unit #3, which is a 755 hp diesel-fired emergency generator engine. The engine was installed in 2017 and in accordance with 20.11.41.2.C(1) NMAC, the generator engine is subject with NSPS (40 CFR Part 60, Subpart IIII).

Beside the new emergency generator engine there has not been any new equipment added and there have not been any changes to the existing equipment at the RBGS facility. However, the existing emergency fire pump engine is no longer considered an insignificant source and has been designated as Emission Unit #2 and added to the Process Equipment table in the last permitting action.

# 4.0 PSD APPLICABILITY

Rio Bravo Generating Station is a major source under Prevention of Significant Deterioration. RBGS is a named PSD Source Category; fossil fuel-fired steam electric plants of more than 250 million BTU/hr heat input. RBGS has the potential to emit greater than 100 tons per year of carbon monoxide (504 tpy) and nitrogen oxides (528 tpy). There has not been a replacement of any units which would trigger an emission increase evaluation under PSD.

# 5.0 HISTORY (In Ascending chronological order, showing NSR and Title V)

| Permit # | Issue Date | Action Type | Description of Action (Changes) |
|---|---|---|---|
| 0694 | 3/5/1998 | Combined Permit | Issued to Cobisa. The combined permit authorized Cobisa to construct and operate a simple cycle combustion turbine as a peak load unit. Permit #0694 authorized the installation of one of the |

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| | | Acid Rain, NSR, PSD, Title V | following three turbines: Westinghouse 501D5A; Asea Brown Boveri GT11N2-SB; and General Electric PG7231(FA). Permit #0694 described the equipment as a "100-150 MW simple-cycle gas turbine electrical generator". Emission limits for each pollutant were based on the highest emitter of the three proposed turbines. |
| 0694-M1 | 7/20/1998 | Combined Permit Acid Rain, NSR, PSD, Title V | Issued to Cobisa as an administrative modification to Permit, #0694. The administrative modification adjusted the emission limits and clarified the $PM_{10}$ monitoring requirements. |
| AR2093 | 6/22/2011 | Acid Rain | Issued to Delta as an administrative permit revision to split off the Acid Rain permit from the previous combined permit. |
| 0694-M1-RV1 | 6/22/2011 | NSR/PSD | Issued to Delta Person as an administrative permit revision to split off the NSR/PSD permit from the previous combined permit. This action also adjusted the lb/hr and tpy emission limits to ensure the limits matched BACT limits and vendor data. Finally, this action incorporated PM2.5 emission limits and required performance testing to verify compliance with $PM_{10}$ emission limits and 20.11.67 limits. |
| 2093 | 6/22/2011 | Title V | Issued to Delta as a Title V Operating Permit Renewal. This action split the Title V permit from the previous combined permit. |
| 0694-M1-RV2 | 9/19/2014 | NSR/PSD | Issued to PNM as an administrative permit revision to change ownership of the facility, update the facility name to Rio Bravo Generating Station, and change the Responsible Official to Richard Threet. |
| 2093-RV1 | 9/19/2014 | Title V | Issued to PNM as an administrative amendment to change ownership of the facility, update the facility name to Rio Bravo Generating Station, and change the Responsible Official to Richard Threet. |
| AR2093-RV1 | 4/24/2015 | Acid Rain | Issued to PNM as an administrative amendment to change the facility name to Rio Bravo Generating Station, correct the permit expiration date from June 21, 2015 to June 21, 2016, and change the Designated Representative to Richard Threet. |
| 0694-M2 | 8/31/2015 | NSR/PSD | Issued to PNM as a permit modification to the NSR/PSD permit pursuant to 20.11.41.29 NMAC; action did not trigger PSD review. Originally submitted by Delta to propose an Alternative Compliance Demonstration Method (ACDM) to replace the requirement for $PM_{10}$ performance testing and to adjust emission limits based on revised manufacturer's data. PNM acquired this application when it purchased the Delta-Person Generation Station. PNM amended the application with an updated ACDM and incorporated requirements for an existing emergency fire pump engine. |
| 2093-M1 | Withdrawn | Title V Modification | Originally submitted by Delta to complement Application #0694-M2 to propose an Alternative Compliance Demonstration Method (ACDM) to replace the requirement for $PM_{10}$ performance testing and to adjust emission limits based on revised manufacturer's data. PNM acquired this application when it purchased the Delta-Person Generation Station. (Withdrawn by PNM in a letter dated June 18, 2015.) |
| 2093-RN1 | 8/16/2016 | Title V Renewal | Submitted by PNM to meet Title V permit renewal deadline in Operating Permit #2093-RV1. |
| 0694-M3 | 7/7/2017 | NSR/PSD | Issued to PNM as a permit modification to the NSR/PSD permit pursuant to 20.11.41.29 NMAC for the installation and operation of |

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|---|---|---|---|
| | | | an emergency backup generator and added permit language for applicable regulations including 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. It also included updates to emissions table in Condition 2 to include existing Hazardous Air Pollutant emissions that were erroneously omitted in prior permitting actions. |
| AR2093-RN1 | 09/18/2018 | Acid Rain Renew | Issued to PNM as an Acid Rain Renewal |
| 2093-RN1-1AR (Incorrectly numbered 2093-RV1-1AR) | 06/26/2019 | Title V Administrative Revision | Issued to PNM as an administrative revision to in the form of an issuance letter changing the responsible official from Richard Threet to Heath Lee 2093-RN1-1AR was issued pursuant to 20.11.42.13.E(1) NMAC in the form of an issuance letter with the specific instruction to attach the letter to the Title V Permit #2093-RN1 (Permit #2093-RV1-1AR was incorrectly attached & referenced). |
| 2093-RN1-2AR (Incorrectly numbered 2093-RV1-2AR and incorrectly reissued) | 07/2/2020 | Title V Administrative Revision | Issued to PNM as an administrative revision to in the form of an issuance letter changing the responsible official from Richard Threet to Heath Lee 2093-RN1-2AR was issued pursuant to 20.11.42.13.E(1) NMAC in the form of an issuance letter with the specific instruction to attach the letter to the Title V Permit #2093-RN1 (Permit #2093-RV1-2AR was incorrectly attached, referenced and incorrectly reissued.). |
| 2093-RN1-M1 | 5/10/2021 | Title V Major Modification | PNM application for a major modification to Title V Permit #2093-RN1 for the following modification changes made to Construction Permit #394-M3:<br>The installation and operation of an emergency backup generator and added permit language for applicable regulations including 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.<br>This modification to Title V Permit #2093-RN1 will also include updates to emissions table in Condition 2 to include existing Hazardous Air Pollutant emissions that were erroneously omitted in prior permitting actions and it will be officially changing the responsible official from Richard Threet to Heath Lee within the Title V permit. |
| 2093-RN3 | XX/XX/XXXX | Title V Renewal | Submitted by PNM to meet Title V permit renewal deadline in Operating Permit #2093-RN3. |

# 6.0 COMPLIANCE ASSURANCE MONITORING

Rio Bravo Generating station does use a control device to achieve compliance with an emission limitation and has potential pre-control emissions greater than the major source threshold, but is exempt from any requirements under 40 CFR 64 pursuant to 40 CFR 64.2(b)(1)(iii) and (vi).

RBGS has uncontrolled NOx emissions greater than the major source threshold, and uses low-NOx burners when combusting natural gas and water injection when combustion #2 fuel oil to meet emission limits.

40 CFR 64.2(b)(1)(iii) exempts facilities from CAM requirements for emission limits under the Acid Rain Program and 40 CFR 64.2(b)(1)(iv) exempts facilities from CAM requirements for if a continuous compliance determination method is used to determine compliance with an emission limit. RBGS is subject to the Acid Rain Program and uses a Continuous Emissions Monitoring system to measure NOx emissions.

# 7.0 PUBLIC RESPONSE/CONCERNS

The public comment period ran from June 20, 2016 until July 20, 2016.

# 8.0 COMPLIANCE TESTING

| Unit # | Compliance Test | Test Dates | | |
|---|---|---|---|---|
| 1 | CO and VOC<br>(Initial Compliance Test) | May 31-June 1, 2000 (Natural Gas)<br>June 11-12, 2000 (#2 Fuel Oil) | | |
| 1 | Continuous Emission Monitoring System (CEMS) Annual Relative Test Audits (RATAs) for $NO_X$ and CO<br><br>**Tests conducted after PNM's purchase of RBGS are bolded.** | June 2, 2002<br>March 7, 2002<br>November 23, 2002<br>November 30, 2004<br>December 1, 2005<br>December 8, 2006<br>February 1, 2007<br>July 28, 2015<br>July 28, 2016<br>July 17, 2025 | December 5, 2007<br>March 12, 2008<br>December 18, 2008<br>July 27, 2010<br>July 21, 2011<br>July 31, 2012<br>August 27, 2013<br>September 17, 2014<br>July 28, 2015<br>July 28, 2016<br>July 27, 2017<br>July 26, 2018<br>August 8, 2019<br>July 29, 2020<br>December 2, 2025 | **September 17, 2014**<br>**January 6, 2015**<br>**July 31, 2015**<br>**July 28, 2016**<br>**July 27, 2017**<br>**July 26, 2018**<br>**August 8, 2019**<br>**July 29, 2020** |

# 9.0 COMPLIANCE AND ENFORCEMENT STATUS

Per an interoffice email dated June 14, 2016, the supervisor for the Compliance Section stated that there is no outstanding notice of violation or settlement agreement for which all actions have not been completed for PNM Rio Bravo Generating Station (Permit #2093-RV1 and #0694-M2)

# 10.0 MODELING

Air dispersion modeling was last conducted for this facility in 1998 using the ISCST3 model. Annual and 24-hour standards for $PM_{2.5}$ have been promulgated since the last air dispersion modeling review. New air dispersion modeling for TSP, $PM_{10}$ and $PM_{2.5}$ using AERMOD was submitted on July 15, 2013 and the AQP's review was completed on July 26, 2013. In addition, the 1-hour $SO_2$ standard was promulgated since the last air dispersion modeling review. New air dispersion modeling for $NO_x$, CO, and $SO_2$ using AERMOD was submitted on October 21, 2013 and the AQP's review was completed on February 21, 2014. The new air dispersion modeling demonstrates that the Rio Bravo Generating Station does not cause or contribute to an exceedance of a NAAQS or NMAAQS for any pollutant.

From the AQP's July 26, 2013 air dispersion model review:

**Table 5: Impact of emissions vs. Ambient Air Quality Standards**

| Pollutant | Maximum Modeled Impact ($\mu g/m^3$) | Model + Background ($\mu g/m^3$) | Averaging Time | Lowest Applicable | Pass/Fail |
|---|---|---|---|---|---|

| | | | | Standard ($\mu g/m^3$) | |
|---|---|---|---|---|---|
| TSP (H1H) | 4.4 | 41.4 | 24-hour | 150 | P |
| TSP | Negligible | n/a | Annual | 60 | P |
| $PM_{2.5}$ | 4.0 | 10.5 | 24-hour | 35 | P |
| $PM_{2.5}$ | Negligible | n/a | Annual | 12 | P |

Demonstrating compliance with the 24-hr TSP NMAAQS of 150 $\mu g/m^3$ serves as a demonstration of compliance with the $PM_{10}$ 24-hr NAAQS of 150 $\mu g/m^3$ because $PM_{10}$ is a component of TSP ($PM_{10} \leq$ TSP).

From the AQP's February 21, 2014 air dispersion model review:

**Table 5: Impact of emissions vs. Ambient Air Quality Standards**

| Pollutant | Maximum Modeled Impact ($\mu g/m^3$) | Background ($\mu g/m^3$) | Model + Background ($\mu g/m^3$) | Averaging Time | Lowest Applicable Standard ($\mu g/m^3$) | Pass/Fail |
|---|---|---|---|---|---|---|
| $NO_2$ | 78.4 | 91.8 | 170.2 | 1-hour | 188 | P |
| $NO_2$ | 22.7 | 37 | 59.7 | 24-hour | 188 | P |
| $NO_2$ | 0.2 | 30 | 30.2 | Annual | 94 | P |
| CO | 43.3 | -- | -- | 1-hour | 15007 | P |
| CO | 20.8 | -- | -- | 8-hour | 9967 | P |
| $SO_2$ | 23.1 | 16.23 | 39.33 | 1-hour | 196.5 | P |
| $SO_2$ | 16.0 | -- | -- | 3-hour | 1310 | P |
| $SO_2$ | 6.7 | -- | -- | 24-hour | 262 | P |
| $SO_2$ | 0.03 | -- | -- | Annual | 52 | P |

On April 17, 2017, PNM Rio Bravo Station received a modeling waiver from performing a dispersion modeling analysis for installation of the new emergency generator, Emission Unit #3**.**

# 11.0 STARTUP AND SHUTDOWN

PNM has reviewed their startup and shutdown emissions over the period of July 24, 2014 to July 31, 2015 and found that there were four exceedances of the $NO_x$ lb/hr limit during the period which included 71 startups and shutdowns. This issue was communicated to the AQP during PNM's review of the draft NSR/PSD Permit #0694-M2. PNM requested to make changes to SSM emissions as part of the draft permit comments submitted on July 23, 2015. The AQP carefully considered what changes could be made to SSM emissions in the permit considering the timing of the request and the inability to accept additional analysis/application materials. Given these constraints, the AQP determined that it could redefine an excess emission (only for $NO_x$) as any hour where the CEMS measures $NO_x$ in excess of 288.1 lb/hr. This determination relied upon the 1-hour $NO_2$ modeling being carried out using 288.1 lb/hr. The revised approach to $NO_x$ SSM emissions is covered in Condition I.2(k)(ii) of NSR/PSD Permit #0694-M2 and in Condition 3.2.1.2 of Draft Operating Permit #2093-RN1.

# 12.0 STATE REGULATORY ANALYSIS

| 20.11 NMAC Title | Comments | Applies (Y/N) |
|---|---|---|
| 20.11.1 NMAC General Provisions | This part is to provide definitions which are generally applicable to Albuquerque/Bernalillo county air quality control board regulations | Y |
| 20.11.2 NMAC Fees | This regulation establishes annual emissions fees for sources with source registrations, authority-to-construct permits, and Title V permits. | Y |
| 20.11.5 NMAC Visible Air Contaminants | This regulation limits visible emission from mobile and stationary sources. | Y |
| 20.11.8 NMAC Ambient Air Quality Standards | This regulation adopts the Federal and State ambient air quality standards. | Y |
| 20.11.20 NMAC Fugitive Dust Control | This regulation requires the use of reasonable precautions to prevent particulate matter that is generated from becoming airborne, requires permits for disturbances exceeding ¾ acre, and requires controls on dirt roads. | Y |
| 20.11.40 NMAC Source Registration | This regulation addresses registration of stationary air pollution sources. | Y |
| 20.11.41 NMAC Authority-To-Construct | This regulation addresses pre-construction permitting of stationary air pollution sources. | Y |
| 20.11.42 NMAC Operating Permits | This regulation addresses permitting of Title V source | Y |
| 20.11.43 NMAC Stack Height Requirements | This regulation pertains to stack heights as used to evaluate air quality impacts. | Y |
| 20.11.47 NMAC Emissions Inventory Requirements | Applies to the owner or operator of every stationary source in Bernalillo County that has an active permit issued pursuant to 20.11.41 NMAC, authority to Construct, or 20.11.42 NMAC, Operating Permits | Y |
| 20.11.48 NMAC Greenhouse Gas Emissions Reporting | Facilities required to report greenhouse gas emissions to the department are electrical generating units is equal to or greater than 25 megawatts of electricity, a petroleum refining facility, and a cement manufacturing facility. | Y |
| 20.11.49 NMAC Excess Emissions | This regulation is applicable to RBGS. | Y |
| 20.11.61 NMAC Prevention of Significant Deterioration | This regulation pertains to Prevention of Significant Deterioration and is applicable to RBGS. RBGS is equipped with one of the named PSD Source Categories. RBGS has a PTE of greater than 100 tpy of two regulated pollutants. RBGS has 504 tons per year of CO emissions and 528 tons per year of $NO_X$ emissions. | Y |
| 20.11.62 NMAC Acid Rain | This regulation is applicable to the RBGS since the facility is an acid rain source as defined at 40 CFR 72.6. | Y |
| 20.11.63 NMAC New Source Performance Standards For Stationary Sources | This regulation pertains to new source performance standards (NSPS) and incorporates the Federal NSPS. RBGS, Emission Unit #1 is subject to 40 CFR 60 Subpart GG – Standards of Performance for Stationary Gas Turbines. | Y |
| 20.11.63 NMAC New Source Performance Standards For Stationary Sources | This regulation pertains to new source performance standards (NSPS) and incorporates the Federal NSPS. RBGS, Emission Unit #3 is subject to 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. | Y |

| 20.11 NMAC Title | Comments | Applies (Y/N) |
|---|---|---|
| 20.11.64 NMAC Emission Standard For Hazardous Air Pollutants For Stationary Sources | This regulation pertains to national emission standards for Hazardous Air Pollutants (NESHAP) and incorporates the federal NESHAP and maximum achievable control technology standards (MACT). RBGS, Emission Unit #2 and Emission Unit #3 are subject to 40 CFR 63 Subpart ZZZZ - NESHAP for Reciprocating Internal Combustion Engines. | Y |
| 20.11.66 NMAC Process Equipment | This regulation pertains to the control of particulate emissions for process equipment. This regulation is not applicable to RBGS. | N |
| 20.11.67 NMAC Equipment, Emissions, Limitations | 20.11.67.17 NMAC, applies to Oil Burning Equipment – Nitrogen Dioxide for oil burning equipment having a rated heat capacity greater than 1,000,000 Btu per year per unit and establishes a limit of 0.3 lbs nitrogen dioxide emissions per million Btu.<br><br>20.11.67.18.A NMAC, applies to Oil Burning Equipment – Particulate Matter for oil burning equipment having a rated heat capacity greater than 250 million Btu per hour per unit and establishes a limit of 0.03 lbs particulate matter emissions per million Btu and a 20% opacity limit.<br><br>20.11.67.18.C.(1) NMAC, applies to Oil Burning Equipment – Visible emissions for oil burning equipment and having a rated heat capacity greater than 250 million Btu per hour per unit and establishes an opacity limit of 27% for visible emissions resulting from changing of fuels.<br><br>20.11.67.19 NMAC, applies to Oil Burning Equipment – Sulfur Dioxide for oil burning equipment having a rated heat capacity greater than 1,000,000 Btu per year per unit and establishes a limit of 0.34 lbs sulfur dioxide emissions per million Btu.<br><br>20.11.67.20.A NMAC, applies to Gas Burning Equipment – Nitrogen Dioxide for gas burning equipment having a rated heat capacity greater than 1,000,000 Btu per year per unit and establishes a limit of 0.2 lbs nitrogen dioxide emissions per million Btu.<br><br>This regulation is applicable to RBGS for Emission Unit #1. | Y |
| 20.11.90 NMAC Administration, Enforcement, Inspection | This regulation includes provisions for source surveillance, performance tests, and administration and enforcement regulation. This regulation applies to RBGS. | Y |

# 13.0 FEDERAL REGULATORY ANALYSIS

| Citation | Comments | Applies (Y/N) Which Unit? |
|---|---|---|
| 40 CFR 50 National Ambient Air Quality Standards | This regulation adopts Federal ambient air quality standards | Y Entire Facility |
| 40 CFR 60, Subpart A - General Provisions | Pollutants applicable to 40 CFR 60, General provisions for any new or revised NSPS. Applicable for each emission unit affected by a NSPS, as indicated in 40 CFR 60 (see below) | Y Unit 1 and Unit 3 |
| 40 CFR 60, Subpart GG - Standards of Performance for Stationary Gas Turbines | This subpart applies to the gas turbines Emission Unit #1. This unit was constructed after October 3, 1977 and have inputs greater than 10 MMBtu/hr. | Y Unit 1 |
| 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines | Establishes national standards of performance and emissions for stationary source compression ignition internal combustion engines that commenced construction after July 11, 2005 and were manufactured after April 1, 2006.<br><br>This regulation applies to RBGS, Emission Unit #3 since it commenced construction after July 11, 2005 and was manufactured after April 1, 2006. Accordingly, Emission Unit #3 shall comply with all applicable requirements of 40 CFR 60 Subparts A and IIII. | Y Unit 3 |
| 40 CFR 61 Subpart M National Emission Standards for Asbestos | This subpart pertains to asbestos. It is applicable to this facility only periods of demolition or renovation work. | N |
| 40 CFR 63 NESHAP Subpart A – General Provisions | Applies to all sources subject to a standard in 40 CFR 63 | Y Unit 3 |
| 40 CFR 63 NESHAP Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) | Establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions.<br>National Emissions Standard for Hazardous Air Pollutants (NESHAP) found in 40 CFR 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Source Category: Stationary Reciprocating Internal Combustion Engines apply to Emission Unit #2 and this Facility shall comply with the specific requirements found in this subpart as well as the general requirements of 40 CFR 63 Subpart A- General Provisions. The permittee shall comply with the specific requirements of Subpart ZZZZ applicable to existing engines<br>This regulation applies to RBGS, Emission Unit #2 and Emission Unit #3. | Y Unit 3 |
| 40 CFR 70 State Operating Permit Programs | Establishes comprehensive State air quality permitting systems consistent with the requirements of Title V of the Clean Air Act | Y Entire Facility |

| | | |
|---|---|---|
| 40 CFR 72 Permits Regulation | Establishes certain general provisions and the operating permit program requirements for affected sources and affected units under the Acid Rain Program | Y Unit 1 |
| 40 CFR 73 Sulfur Dioxide Allowance System | Establishes requirements and procedures for the allocation of sulfur dioxide emission allowances | Y Unit 1 |
| 40 CFR 75 Continuous Emissions Monitoring | Establishes continuous emissions monitoring requirements for sources subject to the Acid Rain Program. | Y Unit 1 |
| 40 CFR 98 – Mandatory Greenhouse Gas Reporting Rule | Establishes mandatory greenhouse gas (GHG) reporting requirements for owners and operators of certain facilities that directly emit GHG as well as for certain suppliers | Y Entire Facility |

# 14.0 NOT APPLICABLE REQUIREMENTS

The Department has determined that the following requirements identified in the Permit Application as potentially applicable are not Applicable Requirements for this facility. **{The applicant may have identified more or fewer requirements than are listed here.}**

| Requirements Identified as Potentially Applicable in Application | Not Applicable For This Facility(1) | No Requirements(2) |
|---|---|---|
| 40 CFR 60 NSPS Subpart K through Kb – New Source Performance Standards for Petroleum Liquid Storage Vessels<br>Exempt from requirements because storage tank contents have a vapor pressure less than 3.5 kPA | | X |
| 40 CFR 61 NESHAP Subpart M – Asbestos<br>No planned activity triggers applicability of this regulation. | X | X |
| 40 CFR 64 – Compliance Assurance Monitoring<br>Rio Bravo Generating station does use a control device to achieve compliance with an emission limitation and has potential pre-control emissions greater than the major source threshold, but is exempt from any requirements under 40 CFR 64 pursuant to 40 CFR 64.2(b)(1)(iii) and (vi). | | X |
| 40 CFR 68 – Chemical Accident Prevention Provisions<br>Rio Bravo Generating Station does not currently store propane, and therefore does not require a Risk Management Plan. | X | X |

(1) No existing or planned operation/activity at this facility triggers the applicability of these requirements.
(2) Although these regulations may provide guidance, they do not impose any specific requirements on the operation of the facility as described in this permit.

# 15.0 EXEMPT AND/OR INSIGNIFICANT EQUIPMENT

The Albuquerque Environmental Health Department, Operating Permit Program List of Insignificant Activities was proposed to EPA on December 15, 1993 and was revised on August 18, 1995 and on January 3, 1996 with EPA approval.

Pursuant to Albuquerque/Bernalillo County Air Quality Control Regulations Title 20, Chapter 11, Part 42 (Part 42), Operating Permits, the Director of the Environmental Health Department (Department) may list certain activities located at major source as insignificant based on the activities' actual limitations, emission rates, or production rates and approved by the Administrator of the US Environmental Protection Agency

(EPA). The Department may not consider any activity for which applicable requirements apply as insignificant, regardless of whether the activity meets the criteria listed below. The EPA stresses in its "White Paper for Streamlined Development of Part 70 Permit Applications,: dated July 10, 1995, (White Paper) that there is "inherent flexibility" for states to determine trivial activities without EPA approval. In addition, the White Paper also reminds the states that the process of determining and listing insignificant activities should be streamlined to minimize paperwork.

**Title V – INSIGNIFICANT ACTIVITIES and TRIVIAL ACTIVITES (**Revised January 3, 1996)

The following emission sources have been identified by PNM as being insignificant activities.

| INSIGNIFICANT/TRIVIAL ACTIVITIES | JUSTIFICATION |
|---|---|
| Aboveground Fuel Oil Storage Tank | A.1 - Any emission unit, operation, or activity that has the potentia to emit no less? than one (1) ton per year of any regulated criteri pollutant. |

# 16.0 FOR TITLE V ACTION

Cross Reference Table between NSR permit conditions and Title V conditions:

| NSR Condition # (All from NSR/PSD #0694-M3) | Title V Condition |
|---|---|
| **Process Equipment** | |
| Condition I.1.b)<br>This permit reauthorizes the construction and operation of the following equipment:<br>[Process Equipment table]<br>Emission Unit #1 – Dual Fuel Turbine<br>*Updated with Emission Unit #3 – Emergency Power Generator Engine* | 2.1 Process Equipment<br>All of the process equipment authorized for this facility is listed in the table(s) shown below (emission units that were identified as insignificant are not included):<br>[Process Equipment Table]<br>Emission Unit #1 – Dual Fuel Turbine<br>*Updated with Emission Unit #3 – Emergency Power Generator Engine* |
| Condition I.1.c)<br>This permit reauthorizes the construction and operation of the following best available control technology (BACT) air pollution control equipment:<br>[BACT/Air Pollution Control Equipment table] | 2.2 Emission Control Equipment<br>All the pollution control equipment required for this facility is listed in the table shown below. Each emission point is identified by the same number that was assigned to it in the permit application:<br>[Emission Control Equipment Table] |

| Applicable Requirements | |
|---|---|
| Condition I.1.f)<br>This facility is subject to 20.11.61 NMAC – Prevention of Significant Deterioration since the facility is classified as a major source since it has the potential to emit more than 250 tons per year of at least one pollutant regulated by the Clean Air Act. | Table 1<br>20.11.61 NMAC Prevention of Significant Deterioration<br>This regulation addresses pre-construction and modifications of major NSR air pollution sources |
| Condition I.1.g)<br>Unit #1 is subject to Federal New Source Performance Standards (NSPS), Code of Federal Regulations (CFR), Title 40, Part 60, Subpart A – General Provisions, and 40 CFR 60, Subpart GG-Standards of Performance for Stationary Gas Turbines. This facility is an affected facility with a heat input at peak load equal to or greater than 10.7 gigajoules per hour, based on the lower heating value of the fuels fired and has commenced construction, modification, or reconstruction after October 3, 1977. | Table 1<br>40 CFR 60 NSPS Subpart GG – Standards of Performance for Stationary Gas Turbines<br>The provisions of this subpart are applicable to all stationary gas turbines with a heat input at peak load to or greater than 10.7 gigajoules (10 million Btu) per hour and commenced construction, modification, or reconstruction after October 3, 1977 |
| Condition I.1.k)<br>Prior to any asbestos demolition or renovation work, the Department must be notified and proper permits shall be obtained and CFR Title 40, Part 61 Subpart M may apply. | Table 2 |
| Condition I.1.l)<br>National Emissions Standard for Hazardous Air Pollutants (NESHAP) found in 40 CFR 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Source Category: Stationary Reciprocating Internal Combustion Engines apply to Unit #2 and this Facility shall comply with the specific requirements found in this subpart as well as the general requirements of 40 CFR 63 Subpart A- General Provisions. The permittee shall comply with the specific requirements of Subpart ZZZZ applicable to existing engines. | Table 1<br>40 CFR 63 NESHAP Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)<br>Establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions |
| Condition I.1.o)<br>The emission of a regulated air pollutant in excess of the quantity, rate, opacity, or concentration specified in an air quality regulation or permit condition that results in an excess emission (i.e. emissions event) is a violation of the air quality regulation or permit condition and may be subject to an enforcement action. The owner or operator of a source having an excess emission shall, to the extent practicable, operate the source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions. This condition is pursuant to 20.11.49.14 NMAC. | Table 1<br>20.11.49 NMAC Excess Emissions<br>This regulation pertains to any source whose operation results in an emission of a regulated air pollutant, including fugitive emissions, in excess of the quality, rate, opacity or concentration specified by an air quality regulation or permit condition |

| Applicable Requirements (continued) | |
|---|---|
| Condition I.1.p)Unit #3 is subject to Federal New Source Performance Standards (NSPS), 40 CFR 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, and Subpart A - General Provisions. Unit #3 will commence construction after July 11, 2005 and will be manufactured after April 1, 2006. Accordingly, Unit #3 shall comply with all applicable requirements of 40 CFR 60 Subparts A and IIII. | Table 1<br>Establishes national standards of performance and emissions for stationary source compression ignition internal combustion engines that commenced construction after July 11, 2005 and were manufactured after April 1, 2006. |
| **Operational Limits** | |
| Condition I.1.h)<br>Unit #1 is authorized to operate 7,320 hours per year on pipeline quality natural gas and 1,440 hours per year on #2 fuel oil per year based on a 12-month rolling average. | 3.3.1<br>Emission Unit #1 is subject to the following operational requirements and limitations:<br>[Table 3-J: Operational Requirements table]<br>Showing 7,320 hours/year on Natural Gas and 1,440 hours/year on #2 Fuel Oil. |
| Condition I.1.i)<br>The natural gas fuel shall be pipeline quality natural gas and the fuel oil shall be low sulfur #2 fuel oil with less than 0.05% sulfur by weight.<br>*Covered by Emission Limit Condition I.2 e)* | *Covered by Emission Limit Condition 3.2.1.5* |
| Condition I.1.m) i.<br>For Unit #2, in accordance with 40 CFR 63 Subpart ZZZZ §63.6640(f)(1), there is no time limit on its use in emergency situations. However, in order for the engine to be considered an emergency engine, non-emergency operation is limited to the following:<br>1. Maintenance checks and readiness testing on Unit 2 is limited to 100 hours per year.<br>2. The Unit may operate for other non-emergency purposes for 50 hours per year, but counts toward hours for non-emergency operation. The 50 hours or operation cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. | 3.3.2.1<br>In accordance with 40 CFR 63 Subpart ZZZZ, §63.6640(f)(1), there is no time limit on its use in emergency situations. However, in order for the engine to be considered an emergency engine, non-emergency operation is limited to the following:<br>3.3.2.1.1 Maintenance checks and readiness testing on Emission Unit #2 is limited to 100 hours per year.<br>3.3.2.1.2 Emission Unit #2 may operate for other non-emergency purposes for 50 hours per year, but counts towards hours for non-emergency operation. The 50 hours of operation cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. |

| Operational Limits (Continued) | |
|---|---|
| Condition I.1.m) ii.<br>For Unit #2, in accordance with 40 CFR 63 Subpart ZZZZ §63.6603(a), the Facility must comply with the requirements in 40 CFR 63 Subpart ZZZZ Table 2d, line 4 that apply:<br>1. Change oil and filter every 500 hours of operation or annually, whichever comes first;<br>2. Inspect air cleaner every 1000 hours of operation or annually, whichever comes first and replace as necessary; and,<br>3. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. | 3.3.2.2<br>For Emission Unit #2, in accordance with 40 CFR 63 Subpart ZZZZ §63.6603(a), the Facility must comply with the requirements in 40 CFR 63 Subpart ZZZZ Table 2d, line 4 that apply:<br>3.3.2.2.1 Change oil and filter every 500 hours of operation or annually, whichever comes first;<br>3.3.2.2.2 Inspect air cleaner every 1000 hours of operation or annually, whichever comes first and replace as necessary;<br>3.3.2.2.3 Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. |
| Condition I.1.m)iii.<br>In accordance with 40 CFR 63 Subpart ZZZZ §63.6625(e)(3), the Facility must operate and maintain Unit #2 according to the manufacturer's emission-related written instructions or the Facility may develop their own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. | 3.3.2.3<br>In accordance with 40 CFR 63 Subpart ZZZZ §63.6625(e)(3), the Facility must operate and maintain Emission Unit #2 according to the manufacturer's emission-related written instructions or the Facility may develop their own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. |
| Condition I.1.m) iv.<br>In accordance with 40 CFR 63 Subpart ZZZZ §63.6625(h), the Facility must minimize the time Unit #2 is spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. | 3.3.2.4<br>In accordance with 40 CFR 63 Subpart ZZZZ §63.6625(h), the Facility must minimize the time Emission Unit #2 is spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. |
| Condition I.1.q)iv. [Note listed as q)iii but should be q)iv]<br>In accordance with 40 CFR 63 Subpart ZZZZ §63.6590(c), an affected source that is a new or reconstructed stationary RICE located at an area source "must meet the requirements of this part by meeting the requirements of 40 CFR 60 Subpart IIII, for compression ignition engines." The permittee shall comply with the specific requirements of Subpart IIII applicable to new stationary compression ignition internal combustion engines. | 3.3.3.1<br>In accordance with 40 CFR 63 Subpart ZZZZ §63.6590(c), an affected source that is a new or reconstructed stationary RICE located at an area source "must meet the requirements of this part by meeting the requirements of 40 CFR 60 Subpart IIII, for compression ignition engines." The permittee shall comply with the specific requirements of Subpart IIII applicable to new stationary compression ignition internal combustion engines. |
| Condition I.1.p)<br>Unit #3 is subject to Federal New Source Performance Standards (NSPS), 40 CFR 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, and Subpart A - General Provisions. Unit #3 will commence construction after July 11, 2005 and will be manufactured after April 1, 2006. Accordingly, Unit #3 shall comply with all applicable requirements of 40 CFR 60 Subparts A and IIII. | 3.3.3.2<br>Emission Unit #3 is subject to Federal New Source Performance Standards (NSPS), 40 CFR 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, and Subpart A - General Provisions. Emission Unit #3 will commence construction after July 11, 2005 and will be manufactured after April 1, 2006. Accordingly, Emission Unit #3 shall comply with all applicable requirements of 40 CFR 60 Subparts A and IIII. |

| Operational Limits (Continued) | |
|---|---|
| Condition I.1.q)i.<br>Unit #3 shall be restricted to a maximum of 500 hours of operation based on a 12-month rolling total, and shall only be operated during loss of commercial power and as required by the manufacturer for engine exercising/maintenance. Pursuant to 40 CFR 60 Subpart IIII §60.4211(f), Unit #3 shall be limited to 100 hours per year of maintenance checks and readiness testing. Unit #3 may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for the facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. Routine or non-emergency operation of the unit or operation for any other purposes, except as stated above, shall be a violation of this permit. | 3.3.3.3<br>Emission Unit #3 shall be restricted to a maximum of 500 hours of operation based on a 12-month rolling total, and shall only be operated during loss of commercial power and as required by the manufacturer for engine exercising/maintenance. Pursuant to 40 CFR 60 Subpart IIII §60.4211(f), Emission Unit #3 shall be limited to 100 hours per year of maintenance checks and readiness testing. Emission Unit #3 may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for the facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. Routine or non-emergency operation of the unit or operation for any other purposes, except as stated above, shall be a violation of this permit. |
| Condition I.1.q)ii.<br>In order to comply with 40 CFR 60, Subpart IIII §60.4207(b), the diesel fuel used in Unit #3 shall meet the following per-gallon standards per 40 CFR 80.510(b):<br>a. Sulfur content: 15 ppm maximum for non-road diesel fuel.<br>b. Cetane index or aromatic content as follows:<br>i. A minimum cetane index of 40: or<br>ii. A maximum aromatic content of 35 volume percent. | 3.3.3.4<br>In order to comply with 40 CFR 60, Subpart IIII §60.4207(b), the diesel fuel used in Emission Unit #3 shall meet the following per-gallon standards per 40 CFR 1090.305 for nonroad diesel fuel:<br>3.3.3.4.1 Sulfur Standard: Maximum sulfur content of 15 ppm maximum and.<br>3.3.3.4.2 Cetane index or aromatic content. Diesel fuel must meet one of the following standards:<br>3.3.3.4.2.1 Minimum cetane index of 40, or<br>3.3.3.4.2.2 Maximum aromatic content of 35 volume percent. |
| Condition I.1.q)iii. [Note listed as q)ii but should be q)iii]<br>The permittee shall operate and maintain Unit #3 according to the manufacturer's written instructions or procedures developed by the permittee that have been approved by the manufacturer. In addition, the permittee may only change those settings that are allowed by the manufacturer. The permittee must also meet the requirements of 40 CFR Parts 89, 94, and/or 1068 as they apply. This condition is Pursuant to 40 CFR 60 Subpart IIII §60.4211. | 3.3.3.5<br>The permittee shall operate and maintain Emission Unit #3 according to the manufacturer's written instructions or procedures developed by the permittee that have been approved by the manufacturer. In addition, the permittee may only change those settings that are allowed by the manufacturer. The permittee must also meet the requirements of 40 CFR Parts 89, 94, and/or 1068 as they apply. This condition is Pursuant to 40 CFR 60 Subpart IIII §60.4211. |

| Emission Limits | |
|---|---|
| Condition I.2.b)<br>The facility shall not exceed the emission limits stated in the tables below. Tons per year emissions shall be based on a 12-month rolling total.<br>[Criteria Pollutants table],<br>[Hazardous Air Pollutants Emissions Limit Table]<br>[Emissions Limit Table Per 40 CFR 60 Subpart GG],<br>[Emissions Limit Table Per 20.11.67 NMAC] | 3.2.1<br>The Facility is subject to the following emission limits:<br>[Table 2-B: Criteria Pollutants Emissions Limit],<br>[Table 3-B: Hazardous Air Pollutants Emissions Limit]<br>[Table 3-C: Emissions Limit per 40 CFR Subpart GG],<br>[Table 3-D: Emissions Limit Per 20.11.67 NMAC] |
| Condition I.2.c)<br>In accordance with 40 CFR §60.332, when operating on natural gas or #2 fuel oil, Unit #1 shall comply with the applicable $NO_x$ standard specified in the "EMISSIONS LIMIT TABLE PER 40 CFR 60 SUBPART GG" table of Condition 2(b). Unit #1, when operating on natural gas or #2 fuel oil, shall not exceed the more stringent of the applicable $NO_x$ standard as specified in the "EMISSIONS LIMIT TABLE PER 40 CFR 60 SUBPART GG" table of Condition 2(b) or the lb/hr emission limit as specified in the "Criteria Pollutants" table of Condition 2(b). | 3.2.1.7<br>In accordance with 40 CFR 60.332, when operating on natural gas or #2 fuel oil, Emission Unit #1 shall comply with the applicable $NO_X$ standard specified in Table 3-Cof Condition 3.2.1. Emission Unit #1, when operating on natural gas or #2 fuel oil, shall not exceed the more stringent of the applicable $NO_X$ standard as specified in Table 3-C of Condition 3.2.1 or the lb/hr emission limit as specified in Table 3-A of Condition 3.2.1. |
| Condition I.2.d)<br>In accordance with either 40 CFR §60.333 (a) or (b), when operating on natural gas or #2 fuel oil, Unit #1 shall comply with the $SO_2$ standard as specified in the "EMISSIONS LIMIT TABLE PER 40 CFR 60 SUBPART GG" table of Condition 2(b). Unit #1, when operating on natural gas or #2 fuel oil, shall not exceed the more stringent of the $SO_2$ standard as specified in the "EMISSIONS LIMIT TABLE PER 40 CFR 60 SUBPART GG" table of Condition 2(b) or the lb/hr emission limit as specified in the "Criteria Pollutants" table Condition 2(b).<br>i. Per 40 CFR §60.333 (a), Unit #1 shall not cause to be discharged into the atmosphere, any gases which contain sulfur dioxide in excess of 0.015% by volume at 15% oxygen and on a dry basis.<br>ii. Per 40 CFR §60.333 (b), Unit #1 shall not burn any fuel that contains sulfur in excess of 0.8% by weight. | 3.2.1.8<br>In accordance with either 40 CFR 60.333 (a) or (b), when operating on natural gas or #2 fuel oil, Emission Unit #1 shall comply with the $SO_2$ standard as specified in Table 3-C table of Condition 3.2.1. Emission Unit #1, when operating on natural gas or #2 fuel oil, shall not exceed the more stringent of the $SO_2$ standard as specified in Table 3-C of Condition 3.2.1 or the lb/hr emission limit as specified in Table 3-A of Condition 3.2.1.<br>3.2.1.8.1 Per 40 CFR 60.333 (a), Emission Unit #1 shall not cause to be discharged into the atmosphere, any gases which contain sulfur dioxide in excess of 0.015% by volume at 15% oxygen and on a dry basis.<br>3.2.1.8.2 Per 40 CFR 60.333 (b), Emission Unit #1 shall not burn any fuel that contains sulfur in excess of 0.8% by weight. |
| Condition I.2.e)<br>For Unit #1, Compliance with the lb/hr $SO_2$ limits in Condition 2(b) shall be based on the use of pipeline quality natural gas and #2 fuel oil with less than 0.05% sulfur by weight as specified in Condition 1(i). The fuel sulfur content and hours of operation on each fuel shall be used to determine tons per year emissions. | 3.2.1.5<br>Compliance with the $SO_2$ lb/hr emission limitation for Emission Unit #1 in the Criteria Pollutants Emission Limits table of Condition 3.2.1 shall be based on the use of pipeline quality natural gas and #2 fuel oil with less than 0.05% sulfur by weight. The fuel sulfur content and hours of operation on each fuel shall be used to determine tons per year emissions. |

| Emission Limits (continued) | |
|---|---|
| Condition I.2.f)<br>For Unit #1, The CO and VOC lb/hr emission rate shall be based on the averaging period specified in EPA 40 CFR 60, Appendix A, Reference Method 10 and Method 25A, respectively, or other method as approved by the Department. | 3.2.1.3<br>Compliance with the CO and VOC lb/hr emission limitation for Emission Unit #1 in the Criteria Pollutants Emission Limits table of Condition 3.2.1 shall be based on the averaging period specified in EPA 40 CFR 60, Appendix A, Reference Method 10 and Method 25A, respectively, or other method as approved by the Department. |
| Condition I.2.g)<br>For Unit #1, The CO and VOC lb/hr emission rates shall be used to determine tons per year emissions. | 3.2.1.4<br>Compliance with the CO and VOC tpy emission limitation for Emission Unit #1 in the Criteria Pollutants Emission Limits table of Condition 3.2.1 shall be determined using the CO and VOC lb/hr emission rates. |
| Condition I.2.h)<br>In accordance with 20.11.67.18.A NMAC and 20.11.67.18.C when operating on #2 fuel oil and 20.11.5.12 NMAC, Unit #1 shall not cause or allow visible air emissions to exceed 20 percent opacity for any six (6) minute timed average. | 3.2.2.1<br>Emission Unit #1 is subject to the following opacity limits during any six (6) minute timed average pursuant to 20.11.5 NMAC, 20.11.67.18.A NMAC, and 20.11.67.18.C.(1).<br>[Table 3-I: Opacity Limit] |
| Condition I.2.i)<br>In accordance with 20.11.67.18 NMAC, Unit #1 when changing fuels shall not cause or allow visible air emissions to exceed 27% percent opacity for a period or periods aggregating not more than 6 minutes in any 60-minute period. | 3.2.2.1<br>Emission Unit #1 is subject to the following opacity limits during any six (6) minute timed average pursuant to 20.11.5 NMAC, 20.11.67.18.A NMAC, and 20.11.67.18.C.(1).<br>[Table 3-I: Opacity Limit] |
| Condition I.2.j)<br>Unit #1 is subject to 20.11.67.20.A NMAC – Equipment, Emissions, Limitations. The $NO_2$ emissions from Unit #1 when operating on natural gas shall be limited to 0.2 pounds/million BTUs based on a 30 day rolling average. Compliance with the standard shall be based on a 30-day rolling average, updated every 24 hours from midnight to midnight, representing one turbine operating day. The 30-day rolling average shall be calculated by summing the daily averages of 30 sequential (not necessarily consecutive) valid turbine operating days divided by thirty (30). A valid turbine operating day shall have at least three (3) operating hours. Daily averages shall be calculated by averaging the hourly $NO_2$ values during each day from midnight to midnight, and shall not include hours in which the unit did not operate. $NO_2$ is a component of $NO_x$, therefore compliance with the standard may be shown using $NO_x$ CEMS data. | 3.2.1.12<br>In accordance with 20.11.67.20.A NMAC, the $NO_2$ emissions from Emission Unit #1 when operating on natural gas shall be limited to 0.2 pounds/million BTUs based on a 30 day rolling average. Compliance with the standard shall be based on a 30-day rolling average, updated every 24 hours from midnight to midnight, representing one turbine operating day. The 30-day rolling average shall be calculated by summing the daily averages of 30 sequential (not necessarily consecutive) valid turbine operating days divided by thirty (30). A valid turbine operating day shall have at least three (3) operating hours. Daily averages shall be calculated by averaging the hourly $NO_2$ values during each day from midnight to midnight, and shall not include hours in which the unit did not operate. $NO_2$ is a component of $NO_X$, therefore compliance with the standard may be shown using $NO_X$ CEMS data. |

| Emission Limits (continued) | |
|---|---|
| Condition I.2.k)<br>$NO_x$ Compliance Demonstrations<br><br>i. Compliance with the $NO_x$ tpy emission limitation for Unit #1 in the Criteria Pollutants table of Condition 2 (b) shall be based on a monthly rolling 12-month total. To determine compliance with the tpy emission limit for $NO_x$, the hourly lb/hr $NO_x$ values measured by the CEMS shall be summed for each fuel type for each monthly rolling 12-month total. Any operation within an hour on a given fuel is included as an operating hour for that fuel.<br><br>ii. Compliance with the $NO_x$ lb/hr emission limitation for Unit #1 in the Criteria Pollutants table of Condition 2 (b) shall be based on the hourly lb/hr NOx values measured by the CEMS for a given hour. Any operation within an hour on a given fuel is included as an operating hour for that fuel. For any hour containing a startup or shut-down cycle, while firing on either natural gas or #2 fuel oil, an excess emission is defined as an hourly lb/hr NOx value measured by the CEMS that exceeds 288.1 lb/hr. For all other operating hours, an excess emission is defined as an hourly lb/hr NOx value measured by the CEMS that exceeds the applicable NOx lb/hr emission limitation in the Criteria Pollutants table of Condition 2(b). | 3.2.1.1<br>Compliance with the $NO_X$ tpy emission limitation for Emission Unit #1 in the Criteria Pollutants Emission Limits table of Condition 3.2.1 shall be based on a monthly rolling 12-month total. To determine compliance with the tpy emission limit for $NO_X$, the hourly lb/hr $NO_X$ values measured by the CEMS shall be summed for each fuel type for each monthly rolling 12-month total. Any operation within an hour on a given fuel is included as an operating hour for that fuel.<br><br>3.2.1.2<br>Compliance with the $NO_X$ lb/hr emission limitation for Emission Unit #1 in the Criteria Pollutants Emission Limits table of Condition 3.2.1 shall be based on the hourly lb/hr $NO_X$ values measured by the CEMS for a given hour. Any operation within an hour on a given fuel is included as an operating hour for that fuel. For any hour containing a startup or shut-down cycle, while firing on either natural gas or #2 fuel oil, an excess emission is defined as an hourly lb/hr $NO_X$ value measured by the CEMS that exceeds 288.1 lb/hr. For all other operating hours, an excess emission is defined as an hourly lb/hr $NO_X$ value measured by the CEMS that exceeds the applicable $NO_X$ lb/hr emission limitation in Table 3-A of Condition 3.2.1. |
| Condition I.2.l)<br>Unit #1 is subject to 20.11.67.17 NMAC – Equipment, Emissions, Limitations. The $NO_2$ emissions from Unit #1 when operating on #2 fuel oil shall be limited to 0.3 pounds/million BTUs based on a 30 day rolling average. Compliance with the standard shall be based on a 30-day rolling average, updated every 24 hours from midnight to midnight, representing one turbine operating day. The 30-day rolling average shall be calculated by summing the daily averages of 30 sequential (not necessarily consecutive) valid turbine operating days divided by thirty (30). A valid turbine operating day shall have at least three (3) operating hours. Daily averages shall be calculated by averaging the hourly $NO_2$ values during each day from midnight to midnight, and shall not include hours in which the unit did not operate. $NO_2$ is a component of $NO_x$, therefore compliance with the standard may be shown using $NO_x$ CEMS data. | 3.2.1.9<br>In accordance with 20.11.67.17 NMAC, the $NO_2$ emissions from Emission Unit #1 when operating on #2 fuel oil shall be limited to 0.3 pounds/million BTUs based on a 30 day rolling average. Compliance with the standard shall be based on a 30-day rolling average, updated every 24 hours from midnight to midnight, representing one turbine operating day. The 30-day rolling average shall be calculated by summing the daily averages of 30 sequential (not necessarily consecutive) valid turbine operating days divided by thirty (30). A valid turbine operating day shall have at least three (3) operating hours. Daily averages shall be calculated by averaging the hourly $NO_2$ values during each day from midnight to midnight, and shall not include hours in which the unit did not operate. $NO_2$ is a component of $NO_X$, therefore compliance with the standard may be shown using $NO_X$ CEMS data. |
| Condition I.2.m)<br>Unit #1 is subject to 20.11.67.18.A NMAC – Equipment, Emissions, Limitations. The $PM_{10}$ emissions from emission Unit #1 when operating on #2 fuel oil shall be limited to 0.03 pounds/million BTUs. Compliance with the standard shall be based on the semi-annual TPM emissions calculation in Condition 2.n)(iii). | 3.2.1.10<br>In accordance with 20.11.67.18 NMAC, the PM10 emissions from Emission Unit #1 when operating on #2 fuel oil shall be limited to 0.03 pounds/million BTUs. Compliance with the standard shall be based on the semi-annual TPM emissions calculation in Condition 3.2.1.6.3. |

| Emission Limits (continued) | |
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| Condition I.2 n)<br>Unit #1 is subject to the $PM_{2.5}$, $PM_{10}$ and TSP emission limits in Tables in Condition 2(b). Compliance with these standards shall be based on compliance with the requirements in Condition 2.n)(i)-(iii). | 3.2.1.6<br>Compliance with the PM2.5, PM10, and TSP emission limitations for Emission Unit #1 in the Criteria Pollutants Emission Limits table of Condition 3.2.1 shall be based on compliance with Conditions 3.2.1.6.1, 3.2.1.6.2, and 3.2.1.6.3. |
| Condition I.2.n) i.<br>Work Practice Standards<br>1. Low Sulfur Fuel Oil: During oil operations, combust only low sulfur #2 fuel oil (less than 0.05% sulfur by weight) and maintain records of the sulfur content of each shipment of #2 fuel oil delivery.<br>2. Pipeline Quality Natural Gas: During natural gas operations, combust only pipeline quality natural gas.<br>3. Hours of Operation: Monitoring and recordkeeping of the hours of operation on natural gas and #2 fuel oil.<br>4. Good Air Pollution Control Practices: At all times facility shall, to the extent practicable, maintain and operate the affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.<br>5. Periodic Tuning: The permittee shall perform maintenance and inspect equipment during planned outages and shall perform turbine tuning whenever major combustion components are replaced. | 3.2.1.6.1<br>Work Practice Standards<br>1. Low Sulfur Fuel Oil: During oil operations, combust only low sulfur #2 fuel oil (less than 0.05% sulfur by weight) and maintain records of the sulfur content of each shipment of #2 fuel oil delivery.<br>2. Pipeline Quality Natural Gas: During natural gas operations, combust only pipeline quality natural gas.<br>3. Hours of Operation: Monitoring and recordkeeping of the hours of operation on natural gas and #2 fuel oil.<br>4. Good Air Pollution Control Practices: At all times facility shall, to the extent practicable, maintain and operate the affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.<br>5. Periodic Tuning: The permittee shall perform maintenance and inspect equipment during planned outages and shall perform turbine tuning whenever major combustion components are replaced. |
| Condition I.2.n) ii.<br>Method 9 Opacity Readings During Oil Operations**:** When firing #2 fuel oil in Unit #1, visible emissions from the stack shall be monitored daily in accordance with Condition 4(e). | 3.2.1.6.2<br>Method 9 Opacity Readings During Oil Operations**:** When firing #2 fuel oil in Emission Unit #1, visible emissions from the stack shall be monitored daily in accordance with Condition 3.4.1.5.2. |

## Emission Limits (continued)

### Condition I.2.n) iii.

iii. Semi-Annual Compliance Demonstration Based on Monitoring Data: Calculate the average TPM (total particulate emissions) semi-annually using the following formula.

Assume TPM = TSP = $PM_{10}$ = $PM_{2.5}$ for compliance purposes.

TPM = F + W + S + O

where:

TPM = total particulate matter
F = PM formed from fuel ash
W = PM from dissolved solids in the $NO_x$ control water
S = inorganic condensable PM due to $SO_3$ formation
O = organic condensable PM

Each term of the above formula shall be calculated as follows when fired on natural gas to determine the semi-annual average TPM in (lb/hr).

1. F = 0
   a. Natural gas contains no ash.
2. W = 0
   a. $NO_x$ control water injection not used when firing on natural gas.
3. S = $(Q_{fuel})(S_{fuel})(F1)(3.06\ lb\ H_2SO_4/\ 1\ lb\ S)$
   a. $Q_{fuel}$ = total natural gas usage / total hours of operation (scf/hr)
   b. $S_{fuel}$ = sulfur concentration of fuel = (0.5 grains **S**/100 scf)(1 lb/ 7,000 grains)
   c. F1 = fraction of sulfur in fuel converted to $H_2SO_4$ which can condense into PM = (0.0005)
   d. (3.06 lb $H_2SO_4$/ 1 lb S), mass ratio for $H_2SO_4$ to sulfur
4. O = 5.23 (lb/hr)
   a. 100% of VOC emissions from 2000 stack test when fired on natural gas.

Each term of the above formula shall be calculated as follows when fired on #2 fuel oil to determine the semi-annual average TPM in (lb/hr).

1. F = $(Q_{fuel})(A_{fuel})$
   a. $Q_{fuel}$ = total #2 fuel oil usage / total hours of operation (lb/hr)
   b. $A_{fuel}$ = fuel ash concentration from fuel oil analysis (%)
2. W = $(Q_{water})$(TDS)
   a. $Q_{water}$ = total water used for NOx control / total hours of operation (lb/hr)
   b. TDS = total dissolved solids in NOx control water (ppm)
3. S = $(Q_{fuel})(S_{fuel})(F1)(3.06\ lb\ H_2SO_4/\ 1\ lb\ S)$
   a. $Q_{fuel}$ = total #2 fuel oil usage / total hours of operation (lb oil/hr)
   b. $S_{fuel}$ = sulfur concentration of fuel from fuel oil analysis (ppm)
   c. F1 = fraction of sulfur in fuel converted to H2SO4 which can condense into PM = (0.0005)
   d. (3.06 lb $H_2SO_4$/ 1 lb S), mass ratio for H2SO4 to sulfur
4. O = 4.77 (lb/hr)
   a. 100% of VOC emissions from 2000 stack test when fired on #2 fuel oil.

Each term of the above formula shall be calculated as follows when fired on #2 fuel oil to determine the semi-annual average TPM in (lb/MMBtu).

1. F = $(Q_{fuel})(A_{fuel})$
   a. $Q_{fuel}$ = total fuel oil usage / total heat input (lb/MMBtu)
   b. $A_{fuel}$ = fuel ash concentration from fuel oil analysis (%)
2. W = $(Q_{water})$(TDS)
   a. $Q_{water}$ = total water used for NOx control / total heat input (lb/MMBtu)
   b. TDS = total dissolved solids in NOx control water (ppm)
3. S = $(Q_{fuel})(S_{fuel})(F1)(3.06\ lb\ H_2SO_4/\ 1\ lb\ S)$
   a. $Q_{fuel}$ = total fuel oil usage / total heat input (lb/MMBtu)
   b. $S_{fuel}$ = sulfur concentration of fuel from fuel oil analysis (ppm)
   c. F1 = fraction of sulfur in fuel converted to H2SO4 which can condense into PM = (0.0005)
   d. (3.06 lb $H_2SO_4$/ 1 lb S), mass ratio for H2SO4 to sulfur
4. O = 0.0033 (lb/MMBtu)
   a. 100% of VOC emissions from 2000 stack test when fired on fuel oil.

The facility shall submit the lb/hr and lb/MMBtu TPM values in the semi-annual monitoring report as required in Condition 5.0 of the Rio Bravo Title V Operating Permit No. #2093-RV2.

Annual TPM will be calculated by multiplying the average of the semi-annual TPM values during the reporting period by the operating hours during the reporting period.

### 3.2.1.6.3

*Same formulas, just used table format for easier reading.*

**3.2.1.6.3** Semi-Annual Compliance Demonstration Based on Monitoring Data
Calculate the average TPM (total particulate matter) emissions semi-annually using the following formula.

Assume TPM = TSP = $PM_{10}$ = $PM_{2.5}$ for compliance purposes.

TPM = F + W + S + O

where:

TPM = total particulate matter
F = PM formed from fuel ash
W = PM from dissolved solids in the $NO_X$ control water
S = inorganic condensable PM due to $SO_3$ formation
O = organic condensable PM

Each term of the above formula shall be calculated as follows when fired on natural gas to determine the semi-annual average TPM in (lb/hr).

| Term | | Calculation | Explanation |
|---|---|---|---|
| F | = | 0 | Natural gas contains no ash. |
| W | = | 0 | $NO_X$ control water injection not used when firing on natural gas. |
| S | = | $(Q_{fuel})(S_{fuel})(F1)(3.06\ lb\ H_2SO_4/\ 1\ lb\ S)$ | $(Q_{fuel})$ = total natural gas usage / total hours of operation (scf/hr)<br>$(S_{fuel})$ = sulfur concentration of fuel<br>= (0.5 grains **S**/100 scf)(1 lb/ 7,000 grains)<br>(F1) = fraction of sulfur in fuel converted to $H_2SO_4$ which can condense into PM<br>= (0.0005)<br>(3.06 lb $H_2SO_4$/ 1 lb S) = mass ratio for H2SO4 to sulfur |
| O | = | 5.23 (lb/hr) | 100% of VOC emissions from 2000 stack test when fired on natural gas. |

Each term of the above formula shall be calculated as follows when fired on #2 fuel oil to determine the semi-annual average TPM in (lb/hr).

| Term | | Calculation | Explanation |
|---|---|---|---|
| F | = | $(Q_{fuel})(A_{fuel})$ | $(Q_{fuel})$ = total #2 fuel oil usage / total hours of operation (lb/hr)<br>$(A_{fuel})$ = fuel ash concentration from fuel oil analysis (%) |
| W | = | $(Q_{water})$(TDS) | $(Q_{water})$ = total water used for $NO_X$ control / total hours of operation (lb/hr)<br>(TDS) = total dissolved solids in $NO_X$ control water (ppm) |
| S | = | $(Q_{fuel})(S_{fuel})(F1)(3.06\ lb\ H_2SO_4/\ 1\ lb\ S)$ | $(Q_{fuel})$ = total #2 fuel oil usage / total hours of operation (lb oil/hr)<br>$(S_{fuel})$ = sulfur concentration of fuel from fuel oil analysis (ppm)<br>(F1) = fraction of sulfur in fuel converted to $H_2SO_4$ which can condense into PM<br>= (0.0005)<br>(3.06 lb $H_2SO_4$/ 1 lb S) = mass ratio for H2SO4 to sulfur |
| O | = | 4.77 (lb/hr) | 100% of VOC emissions from 2000 stack test when fired on #2 fuel oil. |

Each term of the above formula shall be calculated as follows when fired on #2 fuel oil to determine the semi-annual average TPM in (lb/MMBtu).

| Term | | Calculation | Explanation |
|---|---|---|---|
| F | = | $(Q_{fuel})(A_{fuel})$ | $(Q_{fuel})$ = total fuel oil usage / total heat input (lb/MMBtu)<br>$(A_{fuel})$ = fuel ash concentration from fuel oil analysis (%) |
| W | = | $(Q_{water})$(TDS) | $(Q_{water})$ = total water used for $NO_X$ control / total heat input (lb/MMBtu)<br>(TDS) = total dissolved solids in $NO_X$ control water (ppm) |
| S | = | $(Q_{fuel})(S_{fuel})(F1)(3.06\ lb\ H_2SO_4/\ 1\ lb\ S)$ | $(Q_{fuel})$ = total fuel oil usage / total heat input (lb/MMBtu)<br>$(S_{fuel})$ = sulfur concentration of fuel from fuel oil analysis (ppm)<br>(F1) = fraction of sulfur in fuel converted to $H_2SO_4$ which can condense into PM<br>= (0.0005)<br>(3.06 lb $H_2SO_4$/ 1 lb S) = mass ratio for H2SO4 to sulfur |
| O | = | 0.0033 (lb/MMBtu) | 100% of VOC emissions from 2000 stack test when fired on #2 fuel oil. |

The facility shall submit the lb/hr and lb/MMBtu TPM values in the semi-annual monitoring report as required in Section 5.0.

Annual TPM will be calculated by multiplying the average of the semi-annual TPM values during the reporting period by the operating hours during the reporting period.

| Emission Limits (continued) | |
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| Condition I.2.o)<br>Unit #1 is subject to 20.11.67.19 NMAC – Equipment, Emissions, Limitations. The $SO_2$ emissions from emission unit 1 when operating on #2 fuel oil shall be limited to 0.34 pounds/million BTUs based on a 30 day rolling average. Compliance with the standard shall be based on a 30-day rolling average, updated every 24 hours from midnight to midnight, representing one turbine operating day. The 30 – day rolling average shall be calculated by summing the daily averages of 30 sequential (not necessarily consecutive) valid turbine operating days divided by thirty (30). A valid turbine operating day shall have at least three (3) operating hours. Daily averages shall be calculated by averaging the hourly $SO_2$ values during each day from midnight to midnight, and shall not include hours in which the unit did not operate. | 3.2.1.11<br>In accordance with 20.11.67.19 NMAC, the $SO_2$ emissions from Emission Unit #1 when operating on #2 fuel oil shall be limited to 0.34 pounds/million BTUs based on a 30 day rolling average. Compliance with the standard shall be based on a 30-day rolling average, updated every 24 hours from midnight to midnight, representing one turbine operating day. The 30 – day rolling average shall be calculated by summing the daily averages of 30 sequential (not necessarily consecutive) valid turbine operating days divided by thirty (30). A valid turbine operating day shall have at least three (3) operating hours. Daily averages shall be calculated by averaging the hourly $SO_2$ values during each day from midnight to midnight, and shall not include hours in which the unit did not operate. |
| Condition I.2.q)<br>Compliance with the lb/hr emission limits for Unit #2 in the "Criteria Pollutants" table of Condition 2(b), shall be shown by meeting the requirements of 40 CFR 63 Subpart ZZZZ. Compliance with the 12-month rolling total tpy emission limits for Unit #2 in the "Criteria Pollutants" table of Condition 2(b), shall be shown by multiplying the lb/hr emission rate from the table for each pollutant by Unit #2's total operating hours for the 12 month reporting period. | 3.2.1.13<br>Compliance with the lb/hr emission limits for Emission Unit #2 in Table 3-A of Condition 3.2.1, shall be shown by meeting the requirements of 40 CFR 63 Subpart ZZZZ. Compliance with the 12-month rolling total tpy emission limits for Emission Unit #2 in Table 3-A of Condition 3.2.1, shall be shown by multiplying the lb/hr emission rate from the table for each pollutant by Emission Unit #2's total operating hours for the 12 month reporting period. |
| Condition I.2.r)<br>In accordance with 40 CFR 60, Subpart IIII §60.4205(b), owner and operators of 2007 model year and later emergency stationary diesel-powered engines with a displacement of less than 30 liters per cylinder that are not fire engines must comply with the emission standards for new nonroad diesel engines in 40 CFR §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary diesel engine. In accordance with §60.4205(b), and §60.4202 Unit #3 shall comply with the emission standards in 40 CFR §89.112(a) for the same model year and maximum engine power. Per 40 CFR §89.112(a) Unit #3 must meet emission standards of 3.5 g/kW-hr CO, 6.4 g/kW-hr NMHC+NOx, and 0.2 g/kW-hr PM (2.6 g/hp-hr CO, 4.8 g/hp-hr NMHC+NOx, and 0.15 g/hp-hr PM). | 3.2.1.14<br>In accordance with 40 CFR 60, Subpart IIII §60.4205(b), owner and operators of 2007 model year and later emergency stationary diesel-powered engines with a displacement of less than 30 liters per cylinder that are not fire engines must comply with the emission standards for new nonroad diesel engines in 40 CFR §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary diesel engine. In accordance with §60.4205(b), and §60.4202 Emission Unit #3 shall comply with the emission standards in 40 CFR §89.112(a) for the same model year and maximum engine power. Per 40 CFR §89.112(a) Emission Unit #3 shall comply with the emission standards in 40 CFR §89.112(a) for the same model year and maximum engine power. Per 40 CFR §89.112(a) Emission Unit #3 must meet emission standards of 3.5 g/kW-hr (2.6 g/hp-hr) CO, 6.4 g/kW-hr (4.8 g/hp-hr) NMHC+NOx, and 0.2 g/kW-hr (1.5 g/hp-hr) PM). |
| Condition I.2.s)<br>For Unit #3, compliance with NOx, CO, VOC, TSP, $PM_{10}$, and $PM_{2.5}$ pound per hour (lb/hr) emissions limits shall be shown by purchasing an engine certified to the emission standards in 40 CFR §89.112(a) in accordance with 40 CFR §60.4211(c). Compliance with the $SO_2$ pound per hour (lb/hr) emissions, shall be shown by using fuel meeting the requirement in Condition I.1.q.ii. | 3.2.1.15<br>For Emission Unit #3, compliance with NOx, CO, VOC, TSP, $PM_{10}$, and $PM_{2.5}$ pound per hour (lb/hr) emissions limits shall be shown by purchasing an engine certified to the emission standards in 40 CFR §89.112(a) in accordance with 40 CFR §60.4211(c). Compliance with the $SO_2$ pound per hour (lb/hr) emissions, shall be shown by using fuel meeting the requirement in Condition 3.3.3.4**.** |

| Visible Emission Limits | |
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| Condition I.2.p)<br>Unit #2 shall not cause or allow visible air emissions to exceed 20 percent opacity for any six (6) minute timed average. During the first twenty (20) minutes of cold start-up, the visible emissions shall not exceed 40 percent opacity for any (6) minute timed average. No increase of load shall be applied so as to cause an emission having opacity greater than 40 percent during any time interval. This condition is pursuant to 20.11.5.13.C NMAC. | 3.2.2.2<br>Emission Unit #2 shall not cause or allow visible air emissions to exceed 20 percent opacity for any six (6) minute timed average. During the first twenty (20) minutes of cold start-up, the visible emissions shall not exceed 40 percent opacity for any (6) minute timed average. No increase of load shall be applied so as to cause an emission having opacity greater than 40 percent during any time interval. This condition is pursuant to 20.11.5.13.C NMAC. |
| Condition I.2.t)<br>Unit #3 shall not cause or allow visible air emissions from any stationary diesel powered engine to exceed 20 percent opacity for any six (6) minute timed average. During the first twenty (20) minutes of cold start-up, the visible emissions shall not exceed 40 percent opacity for any (6) minute timed average. No increase of load shall be applied so as to cause an emission having an opacity greater than 40 percent during any time interval. This condition is pursuant to 20.11.5.13.C NMAC. | 3.2.2.3<br>Emission Unit #3 shall not cause or allow visible air emissions from any stationary diesel powered engine to exceed 20 percent opacity for any six (6) minute timed average. During the first twenty (20) minutes of cold start-up, the visible emissions shall not exceed 40 percent opacity for any (6) minute timed average. No increase of load shall be applied so as to cause an emission having an opacity greater than 40 percent during any time interval. This condition is pursuant to 20.11.5.13.C NMAC. |
| **Monitoring** | |
| | 3.4.1.1<br>Emission Unit #1 is equipped with a Continuous Emissions Monitoring System (CEMS) for monitoring NOX emissions as required by 40 CFR 75. The permittee shall demonstrate compliance with Conditions 3.2.1.1, 3.2.1.2, 3.2.1.7, 3.2.1.9, and 3.2.1.12 using NOX CEMS data. |
| | 3.4.1.2<br>For Emission Unit #1, the permittee shall demonstrate compliance with Conditions 3.2.1.3 and 3.2.1.4 by conducting periodic emission tests for CO and VOC or monitoring fuel usage required in Condition 3.4.1.4.1. Fuel usage shall be monitored with flow meters. Annual compliance testing has not been imposed at this time. An initial performance test of Emission Unit #1 was conducted in June 2000. The initial performance test was conducted in accordance with EPA Method 10 for CO, EPA Method 25A for VOC, and the methods contained in Appendix A of 40 CFR 60. Additional emission testing may be re-imposed if inspections indicate noncompliance with permit conditions. Any additional emission tests shall be conducted in accordance with EPA Method 10, 25A, and the methods contained in Appendix A of 40 CFR 60, unless otherwise approved by the Department. |
| Condition I.4.a)<br>Monitoring of the sulfur content of the natural gas fuel shall be conducted in accordance with 40 CFR 60.334(i)(3) and for #2 fuel oil in accordance with 40 CFR 75 Appendix D Section 2.2.4. | 3.4.1.3<br>For Emission Unit #1 the permittee shall demonstrate compliance with Conditions 3.2.1.5, 3.2.1.8, 3.2.1.11 by monitoring fuel sulfur content and fuel usage. Monitoring of the sulfur content of natural gas fuel shall be conducted in accordance with 40 CFR 60.334(i)(3). Monitoring of the sulfur content of #2 fuel oil shall be conducted in accordance with 40 CFR 75 Appendix D Section 2.2.4. Fuel usage shall be monitored with flow meters for Emission Unit #1. |
| **Monitoring (continued)** | |

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|---|---|
| Condition I.4 d)<br>Monitoring of visible emissions when firing on natural gas shall require monitoring and recording of the amount of natural gas used on an hourly basis. | 3.4.1.5.1<br>For Emission Unit #1, Monitoring of visible emissions when firing on natural gas shall require monitoring and recording the amount of natural gas used on an hourly basis. |
| Condition I.4.e)<br>In accordance with 20.11.5.15 NMAC monitoring of visible emissions when firing on #2 fuel oil shall be performed daily utilizing 40 CFR 60 Appendix A, Method 9 and shall include two six-minute observation periods. Daily opacity monitoring is not required when conditions do not meet the Method 9 position criteria described in Section 2.1 of 40 CFR 60 Appendix A Method 9 including the requirement that the qualified observer stand with the sun oriented in the 140° sector to his back. | 3.4.1.5.2<br>For Emission Unit #1, In accordance with 20.11.5.15 NMAC monitoring of visible emissions when firing on #2 fuel oil shall be performed daily utilizing 40 CFR 60 Appendix A, Method 9 and shall include two six-minute observation periods. Daily opacity monitoring is not required when conditions do not meet the position criteria described in Section 2.1 of 40 CFR 60 Appendix A Method 9, including the requirement that the qualified observer stand with the sun oriented in the 140° sector to his back. |
| Condition I.4.f)<br>The facility shall monitor $NO_X$ control techniques (i.e. hourly water injection rate) when utilizing #2 fuel oil. | 3.4.1.4.5<br>Hourly water injection rate used during #2 fuel oil combustion. |
| Condition I.4.g)<br>The facility shall monitor the following parameters used in the calculation required in Condition 2(n)(iii).<br><br>i. Operational hours, hourly fuel usage and fuel type on a daily basis.<br>ii. Fuel oil ash content data for each shipment of #2 fuel oil using ASTM-D482 or equivalent test method.<br>iii. Fuel oil sulfur content data based on methods described in 40 CFR 75 for each shipment of #2 fuel oil.<br>iv. TDS value of water used for $NO_x$ control based on laboratory analysis every 6 months, value used in calculation will be lab results or minimum laboratory detection limit if results are non-detect.<br>v. Hourly water injection rate used during #2 fuel oil combustion. | 3.4.1.4<br>For Emission Unit #1, the permittee shall demonstrate compliance with Conditions 3.2.1.6 and 3.2.1.10 using the Semi-Annual Compliance Demonstration Method contained in Condition 3.2.1.6.1 through 3.2.1.6.3. The permittee shall monitor the following parameters used in the calculations required in Condition 3.2.1.6.3:<br><br>3.4.1.4.1 Operational hours, hourly fuel usage, and fuel type on a daily basis.<br>3.4.1.4.2 Fuel oil ash content data for each shipment of #2 fuel oil using ASTM-D482 or equivalent test method.<br>3.4.1.4.3 Fuel oil sulfur content for each shipment of #2 fuel oil based on the methods described in 40 CFR 75.<br>3.4.1.4.4 TDS value of water used for $NO_x$ control based on laboratory analysis every 6 months, value used in calculation will be lab results or minimum laboratory detection limit if results are non-detect.<br>3.4.1.4.5 Hourly water injection rate used during #2 fuel oil combustion. |
| | 3.4.1.6<br>The permittee shall demonstrate compliance with Condition 3.3.1 by monitoring the monthly hours of operation for Emission Unit#1 for each fuel |
| | 3.4.1.7<br>Emission Unit #1 shall comply with the general monitoring requirements of the Federal Mandatory Greenhouse Gas Reporting Rule 40 CFR 98 Subpart A - General Provisions, and Subpart C – General Stationary Fuel Combustion Sources. |
| **Monitoring (continued)** | |
| Condition I.4.h)<br>Monitor the hours of operation for Unit #2. | 3.4.1.10<br>The permittee shall demonstrate compliance with Condition 3.2.1.13 and 3.3.2.1 by monitoring hours of operation for Emission Unit #2 using a non-resettable hour meter. |

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| | 3.4.1.5.3<br>For Emission Unit #2, monitoring of visible emissions shall be conducted annually utilizing 40 CFR 60 Appendix A, Method 9. |
| Condition I.4.i)<br>Install a non-resettable hour meter prior to the startup of Unit #3. This condition is pursuant to 40 CFR 60 Subpart IIII §60.4209(a). | 4.1.3.1<br>Install a non-resettable hour meter prior to the startup of Unit #3. This condition is pursuant to 40 CFR 60 Subpart IIII §60.4209(a) |
| Condition I.4.j)<br>Monitor the hours of operation for Unit #3. | 3.4.1.11<br>The permittee shall demonstrate compliance with Condition 3.2.1.15 and 3.3.3.3 by monitoring hours of operation for Emission Unit #3 using a non-resettable hour meter. |
| | 3.4.1.5.4<br>For Emission Unit #3, monitoring of visible emissions shall be conducted annually utilizing 40 CFR 60 Appendix A, Method 9. |
| **Recordkeeping** | |
| | 4.1.1.1<br>For Emission Unit #1 as required by 40 CFR 75.12(c) the permittee shall calculate the hourly, quarterly, and annual $NO_X$ emission rates (in lb/mmBtu) by combining the $NO_X$ concentration (in ppm), diluent concentration (in percent $O_2$ or $CO_2$), and percent moisture (if applicable) measurements according to the procedures in appendix F of 40 CFR Part 75. The permittee shall maintain records of the $NO_X$ emission rate calculations and records of the measurements used in the calculations. |
| Condition I.3.a)<br>Shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in operation of the affected facility in accordance with 40 CFR 60 Subpart A §60.7(b). | 4.1.1.11<br>Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative in accordance with 40 CFR 60 Subpart A §60.7(b) |
| Condition I.3.b)<br>Shall maintain a file of all measurements including performance test measurements in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records in accordance with 40 CFR 60 Subpart A §60.7(f). | 4.2.2<br>The permittee shall keep copies of all monitoring and measurement data, equipment calibration and maintenance records, original strip charts for Continuous Emission Monitoring instruments if used, other supporting information, and reports required by this permit for at least five (5) years from the time the data was gathered or the reports written. Each record shall show clearly to which emissions unit and/or piece of monitoring equipment it applies, and the date the data was gathered. This condition is pursuant to 20.11.42.12.C(4)(b) NMAC. |

| **Recordkeeping (continued)** | |
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| Condition I.3.c)<br>Shall maintain records of the sulfur content of the fuel consistent with the monitoring requirements of sulfur in Condition 4 (a). | 4.1.1.3<br>Maintain records of sulfur content of fuel and fuel usage consistent with Condition 3.4.1.3. |
| Condition I.3.d)<br>Shall maintain records of the amount of natural gas used on an hourly basis when firing natural gas. | 4.1.1.3<br>Maintain records of sulfur content of fuel and fuel usage consistent with Condition 3.4.1.3. |

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| | 4.1.1.4<br>Maintain records of the parameters monitored in Condition 3.4.1.4 for the Semi-Annual Compliance Demonstration Method. |
| Condition I.3.e)<br>Shall maintain records of visible emissions monitoring on-site. | 4.1.1.5<br>Maintain records of visible emissions monitoring for Emission Unit #1 consistent with Condition 3.4.1.5.<br><br>4.1.2.4<br>Maintain records of visible emissions monitoring for Emission Unit #2 consistent with Condition 3.4.1.5.<br><br>4.1.3.3<br>Maintain records of visible emissions monitoring for Emission Unit #3 consistent with Condition 3.4.1.5. |
| | 4.1.1.6<br>Maintain and record the monthly operating hours for each type of fuel for Emission Unit #1. These records shall also show the total hours of operation in any given 12-month period for each type of fuel. |
| Condition I.3.f)<br>Records of all monitoring requirements, certification, verification, notifications, stack sampling data, and support information shall be retained for a period of at least five (5) years from the date the monitoring sample, stack test, or report. Support information includes all calibration and maintenance records, all original strip-chart recordings for continuous emission monitor (CEMs), and copies of all reports required by this Permit #694-M2. [Note: should reference Permit #0694-M3] | 4.2.2<br>The permittee shall keep copies of all monitoring and measurement data, equipment calibration and maintenance records, original strip charts for Continuous Emission Monitoring instruments if used, other supporting information, and reports required by this permit for at least five (5) years from the time the data was gathered or the reports written. Each record shall show clearly to which emissions unit and/or piece of monitoring equipment it applies, and the date the data was gathered. This condition is pursuant to 20.11.42.12.C(4)(b) NMAC.<br><br>4.1.1.7<br>Maintain records of emission testing required by Condition 3.4.1.8 in accordance with Condition 3 (f) of PSD/CP #0694-M3. |

| Recordkeeping (continued) | |
|---|---|
| Condition I.3.g)<br>The permittee shall comply with the applicable record keeping requirements of 40 CFR 60 Subparts A and GG. | 4.1.1.8<br>Maintain records in accordance with 40 CFR 60 Subpart A and GG.<br><br>4.1.1.8.1 Maintain a file of all measurements including performance test measurements in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records in accordance with 40 CFR 60 Subpart A §60.7(f).<br><br>4.1.1.8.2 Maintain records of fuel sulfur content required by Condition 3.4.1.3, 40 CFR 60.334(i)(3) for natural gas fuel and 40 CFR 75 Appendix D Section 2.2.4 for #2 fuel oil.<br><br>4.1.1.8.3 Maintain records for excess emissions and downtime required by 40 CFR 60.334(j)(iii). |
| | 4.1.1.9<br>The permittee shall comply with the general recordkeeping requirements found in 40 CFR 98.3. Maintain records of Greenhouse Gas emissions as specified in 40 CFR 98.37. The permittee shall comply with the recordkeeping requirements of 40 CFR 98.3(g) and §98.37. |
| | 4.1.1.10<br>Maintain records of turbine tuning, and maintain record of maintenance and maintain records of inspect of equipment during planned outages and whenever major combustion components are replaced conducted per Condition 3.2.1.6.1 . |
| | 4.1.1.11<br>Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative in accordance with 40 CFR 60 Subpart A §60.7(b) |
| Condition I.3.h)<br>Maintain an accurate monthly log for Unit #2 hours of operation, both as a monthly total and as a 12-month rolling total. | 4.1.2.1<br>Maintain an accurate monthly log for Emission Unit #2 hours of operation, both as a monthly total and as a 12-month rolling total. |
| Condition I.3.i)<br>In accordance with 40 CFR 63 Subpart ZZZZ §63.6655(d) and Table 6, line 9, the Facility must keep records showing Unit #2 was operated and maintained according to the manufacturer's emission-related operation and maintenance instructions or a maintenance plan developed by the Facility per 40 CFR 63 Subpart ZZZZ §63.6625(e)(3). | 4.1.2.2<br>In accordance with 40 CFR 63 Subpart ZZZZ §63.6655(d) and Table 6, line 9, the Facility must keep records showing Emission Unit #2 was operated and maintained according to the manufacturer's emission-related operation and maintenance instructions or a maintenance plan developed by the Facility per 40 CFR 63 Subpart ZZZZ §63.6625(e)(3). |

| Recordkeeping (continued) | |
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| Condition I.3.j)<br>In accordance with 40 CFR 63 Subpart ZZZZ §63.6655(f), the Facility must keep records of the hours of operation of Unit #2 recorded through the non-resettable hour meter. The Facility must document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. | 4.1.2.3<br>In accordance with 40 CFR 63 Subpart ZZZZ §63.6655(f), the Facility must keep records of the hours of operation of Emission Unit #2 recorded through the non-resettable hour meter. The Facility must document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. |
| | 4.1.2.4<br>Maintain records of visible emissions monitoring for Emission Unit #2 consistent with Condition 3.4.1.5. |
| | 4.1.2.5<br>Maintain records of maintenance and inspections required in Condition 3.3.2.2. |
| | 4.1.3.1<br>Install a non-resettable hour meter prior to the startup of Emission Unit #3. This condition is pursuant to 40 CFR 60 Subpart IIII §60.4209(a). |
| Condition I.3.k)<br>Maintain an accurate monthly log for Unit #3 hours of operation, both as a monthly total and as a 12-month rolling total | 4.1.3.2<br>Maintain an accurate monthly log for Emission Unit #3 hours of operation, both as a monthly total and as a 12-month rolling total. |
| | 4.1.3.3<br>Maintain records of visible emissions monitoring for Emission Unit #3 consistent with Condition 3.4.1.5.. |

| Reporting | |
|---|---|
| Condition I.5.f)<br>With an updated emissions inventory for all pollutants contained in the Permit Condition I.2.b) table; to include descriptions of any reconfiguration of process technology and air pollution control equipment by March 15 every year for the previous calendar year. If no change has occurred, a letter indicating that no change has occurred shall be sufficient (20.11.41.21.B NMAC); | 1.7<br>Upon request by the Department, the permittee shall submit an emissions inventory for this facility. This condition is pursuant to 20.11.42.12.C(1)(a) NMAC. |

| Reporting (continued) | |
|---|---|
| Condition I.5.g)<br>With the following if the permittee of a source has an excess emission; the reports shall be on forms provided by the Department:<br><br>i. INITIAL REPORT**:** The permittee shall file an initial report, no later than the end of the next regular business day after the time of discovery of an excess emission pursuant to 20.11.49.15.A(1) NMAC;<br><br>ii. FINAL REPORT**:** The permittee shall file a final report, no later than 10 days after the end of the excess emission. If the period of an excess emission extends beyond 10 days, the permittee shall submit the final report to the Department within 72 hours of the date and time the excess emission ceased. This condition is pursuant to 20.11.49.15.A(2) NMAC and 20.11.49.15.C NMAC; and,<br><br>iii. ALTERNATIVE REPORTING**:** If the facility is subject to the reporting requirements of 40 CFR Parts, 60, 61, and 63 and the federal requirements duplicate the requirements of 20.11.49.15 NMAC, then the federal reporting requirements shall suffice. This condition is pursuant to 20.11.49.15.D NMAC. | 5.4<br>The permittee shall submit reports of all excess emissions to the Department. The permittee shall report the excess emissions to the Department with written notice using the Excess Emission Reporting Form (attached to this permit). The permittee of a source having excess emissions shall report the following information to the Department:<br><br>5.4.1 INITIAL REPORT**:** The permittee shall file an initial report, no later than the end of the next regular business day after the time of discovery of an excess emission pursuant to 20.11.49.15.A(1) NMAC;<br><br>5.4.2 FINAL REPORT**:** The permittee shall file a final report, no later than 10 days after the end of the excess emission. If the period of an excess emission extends beyond 10 days, the permittee shall submit the final report to the Department within 72 hours of the date and time the excess emission ceased. This condition is pursuant to 20.11.49.15.A(2) NMAC and 20.11.49.15.C NMAC; and,<br>5.4.3 ALTERNATIVE REPORTING**:** If the facility is subject to the reporting requirements of 40 CFR Parts, 60, 61, and 63 and the federal requirements duplicate the requirements of 20.11.49.15 NMAC, then the federal reporting requirements shall suffice. This condition is pursuant to 20.11.49.15.D NMAC.<br><br>This condition is pursuant to 20.11.49 NMAC. |
| Condition I.5.h)<br>The permittee shall comply with the applicable reporting requirements of 40 CFR 60 Subparts A, GG and 40 CFR 75. | 5.1.1.11<br>The permittee shall comply with the reporting requirements found in 40 CFR 60.7(d) and 40 CFR 60.334(j). |
| Condition I.5.i)<br>In accordance with 40 CFR 63 Subpart ZZZZ §63.6650(f), the Facility, which has obtained a Title V operating permit pursuant to 40 CFR Part 70 or 71, must report all deviations, as defined in 40 CFR 63 Subpart ZZZZ §63.6675, in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). | 5.3 Reporting Deviations<br>The permittee shall submit reports of all deviations (including emergencies) from permit requirements to the Department when they occur. The permittee shall communicate initial notice of the deviation to the Department within twenty-four (24) hours of the start of the first business day following the start of the occurrence via telephone or facsimile. Within ten (10) calendar days of the start of the first business day following the start of the occurrence, written notice using the Excess Emissions Form (attached to this permit) shall be submitted to the Department. This condition is pursuant to 20.11.42.12.C(5)(b) NMAC. |
| | 6.1.1 The permittee shall submit compliance certification reports certifying the compliance status of this facility with respect to all applicable requirements. These reports shall be made on copies of the Compliance Certification Report Form (attached to this permit) and submitted to the Department and to EPA every 12 months. This report is due no later than 30 days after June 30th of every year. Period between compliance certification report submittal not to exceed 12 months during transition from reporting schedule based on permit issuance date to defined date reporting schedule listed above. This condition is pursuant to 20.11.42.12.C.(5)(c) NMAC. |

# 17.0 DATA BASE SUMMARY

| | |
|---|---|
| **Permit Writer:** | Michael McKinstry |
| **Permit No. (NSR):** | #0694-M3-1AR |
| **Operating Permit No.:** | 2093-RN3 |
| **AIRS Number:** | NM/001/00368 |
| **SIC Code:** | 4911 – Electric Services (Fossil Fuel Power Generation) |
| **Facility Type:** | Fossil Fuel Power Generation |
| **Company:** | Public Service Company of New Mexico |
| **Facility:** | Rio Bravo Generating Station |
| **Type of Permit Action:** | Title V Permit Renewal |
| **Application Date:** | May 9, 2025 |
| **Ruled Incomplete:** | N/A |
| **Ruled Complete:** | July 8, 2025 |
| **Application Sent to EPA:** | June 4, 2026 |
| **Public Notice:** | June 4, 2026 |
| **Comments Due:** | July 6, 2026 |
| **Public Hearing:** | **N/A** |
| **Proposed Permit to EPA:** | June 4, 2026 |
| **Permit Due:** | After July 19, 2026 |
| **Permit Issued:** | N/A |
| **Permit to EPA:** | June 4, 2026 |
| **Facility Location:** | 725 Electric Avenue, Albuquerque, NM 87105 |
| **UTM ZONE:** | 13 |
| **UTMH:** | 350,169 m |
| **UTMV:** | 3,877,287 m |
| **Elevation:** | 5049 ft |
| **County:** | Bernalillo |
| **Contact Name:** | Heath Lee, Director, Plant Management I<br>Phone: (505) 241-4723<br>Email: Heath.Lee@pnm.com |
| **Contact Address:** | 4400 Paseo Del Norte NE<br>Albuquerque, NM 87109 |

# 18.0 TITLE V AFFECTED PROGRAM NOTIFICATION

| Affected Program | Distance | Units | Date Letter Sent |
|---|---|---|---|
| Acoma Pueblo | 41 | miles | June 4, 2026 |
| Pueblo de Chochiti | 40 | miles | June 4, 2026 |
| Isleta Pueblo | 5 | miles | June 4, 2026 |
| Jemez Pueblo | 36 | miles | June 4, 2026 |
| Kewa Pueblo (formerly known as Santo Domingo Pueblo) | 34 | miles | June 4, 2026 |
| Laguna Pueblo | 16 | miles | June 4, 2026 |
| Navajo Nation Reservation | 18 | miles | June 4, 2026 |
| San Felipe Pueblo | 24 | miles | June 4, 2026 |
| Sandia Pueblo | 12 | miles | June 4, 2026 |
| Santa Ana Pueblo | 21 | miles | June 4, 2026 |
| Zia Pueblo | 25 | miles | June 4, 2026 |
| NMED Air Quality Bureau | N/A | miles | June 4, 2026 |

# 19.0 FACILITY SPECIFICATIONS

**Total Pollutant Emission from Entire Facility (for information only, not an enforceable condition):**

| Pollutant | Emissions (tons per year) | Emission Type |
|---|---|---|
| Nitrogen Oxides ($NO_x$) | 529 | Allowable |
| Carbon Monoxide (CO) | 505 | Allowable |
| Particulate Matter ($PM_{10}$) | 58 | Allowable |
| Particulate Matter ($PM_{2.5}$) | 52 | Allowable |
| Volatile Organic Compounds (VOC) | 34 | Allowable |
| Sulfur Dioxide ($SO_2$) | 69 | Allowable |
| Hazardous Air Pollutants (HAPs) | 8 | Allowable |

# 20.0 PROCESS & EMISSION CONTROL EQUIPMENT

**Process Equipment Table**

| Unit #. | Unit Description | Manufacturer | Model Number | Serial Number | Date of Mfg. Equipment | Rated Process Rate | |
|---|---|---|---|---|---|---|---|
| 1 | Gas Turbine | General Electric | PG 7241 (FA) | 297-260 | 1998 | Nameplate Capacity: | 150 MW |
| | | | | | | Heat Input Capacity (Natural Gas): | 1582.1 mmBTU/hr |
| | | | | | | Heat Input Capacity (#2 Fuel Oil): | 1680.1 mmBTU/hr |
| 3 | Emergency Power Generator Engine | Cummins | QWX15-G9 | 80019516 | 2017 | 755 HP | |

**Emission Control Equipment Table**

| Unit #. | Type of Air Pollution Control Equipment | Manufacturer | Model Number | Serial Number | Achieved Control | Control Efficiency |
|---|---|---|---|---|---|---|
| 1a Natural Gas | Dry low $NO_X$ | GE 7FA | PG7241 | 297260 | 15 ppmv $NO_X$ | 40 to 50% by weight $NO_X$ |
| 1b #2 Fuel Oil | Water Injection | GE 7FA | PG7241 | 297260 | 42 ppmv $NO_X$ | 40 to 50% by weight $NO_X$ |

# 21.0 FACILITY EMISSIONS LIMITS

**CRITERIA POLLUTANTS EMISSIONS LIMIT TABLE**

| Unit #. | $NO_X$ lb/hr | $NO_X$ tpy | CO lb/hr | CO tpy | $SO_2$ lb/hr | $SO_2$ tpy | VOC lb/hr | VOC tpy | $PM_{10}$ lb/hr | $PM_{10}$ tpy | $PM_{2.5}$ lb/hr | $PM_{2.5}$ tpy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a Natural Gas[A] | 87.5 | 320.1 | 106.5 | 389.8 | 2.2 | 8.1 | 6 | 22 | 9.0 | 32.9 | 8.2 | 30 |
| 1b #2 Fuel Oil[A] | 288.1 | 207.5 | 159.0 | 114.5 | 84.8 | 61.1 | 17 | 12 | 34.0 | 24.5 | 30.9 | 22.3 |
| 3 Emergency Generator Engine | 7.20[C] | 1.8[C] | 4.33 | 1.1 | 0.0074 | 0.0018 | 0.80[C] | 0.20[C] | 0.25 | 0.063 | 0.25 | 0.063 |
| **TOTALS** | **N/A[B]** | **529.4** | **N/A[B]** | **505.4** | **N/A[B]** | **69.2** | **N/A[B]** | **34.2** | **N/A[B]** | **57.5** | **N/A[B]** | **52.4** |

[A]7,320 annual operating hours on pipeline quality natural gas and 1,440 operating hours on #2 fuel oil.
[B]Total lb/hr are not shown since unit will operate on either natural gas only or #2 fuel oil only, not on both fuels simultaneously.
[C]The emissions for $NO_x$ and VOC are applicable to 40 CFR §60.4202 and in accordance with §60.4205(b) and §60.4202 shall meet the emission standards in 40 CFR §1039, Appendix I which are a combined standard of $NO_x$+VOC. The $NO_x$ and VOC emission limits in this table are an extrapolated form of this standard as 90% $NO_x$ and 10% VOC. Refer to Condition I.2.r). In Permit #694-M3 and Condition 3.2.1.13.

**HAZARDOUS AIR POLLUTANTS EMISSIONS LIMIT TABLE**

| Emission Unit Number | Formaldehyde lb/hr | Formaldehyde tpy | Total HAPS lb/hr | Total HAPS tpy |
|---|---|---|---|---|
| 1a Natural Gas[A] | 1.12 | 4.11 | 1.63 | 5.95 |
| 1b #2 Fuel Oil[A] | 0.47 | 0.34 | 2.16 | 1.56 |
| **TOTALS** | **N/A[B]** | **4.45** | **N/A[B]** | **7.51** |

[A]7,320 annual operating hours on pipeline quality natural gas and 1,440 operating hours on #2 fuel oil.
[B]Total lb/hr are not shown since unit will operate on either natural gas only or #2 fuel oil only, not on both fuels simultaneously.